

**Understanding Pakistan's Nuclear Behaviour (1950s–2010):
Assessing the State Motivation and its International Ramifications
(a Three Models Approach)**

Rizwana Karim Abbasi

**Thesis Submitted for the Degree of Doctor of Philosophy in
Social Sciences**

Department of Politics and International Relations



July 2010



STATEMENT OF ORIGINALITY

The accompanying thesis submitted for the degree of Doctor of Philosophy in Social Sciences, entitled:

Understanding Pakistan's Nuclear Behaviour (1950s–2010): Assessing the State Motivation and its International Ramifications (a Three Models Approach)

is based on work conducted by the author in the Department of Politics and International Relations at the University of Leicester mainly during the period between 2005 and 2010.

Approximate number of words: *80,000*

All the work recorded in this thesis is original unless otherwise acknowledged in the text or by references.

None of the work has been submitted for another degree in this or any other University

Signed: Date:

Name: Rizwana Karim Abbasi

**Understanding Pakistan's Nuclear Behaviour (1950s–2010):
Assessing the State Motivation and its International Ramifications
(a Three Models Approach)**

Rizwana Abbasi

Abstract

The aim of this study is to understand the motivation behind Pakistan's nuclear behaviour and its ramifications for the global non-proliferation system. Pakistan is an extremely important case because of its status as a non-signatory state to the Non-Proliferation Treaty (NPT) and a country from which proliferation has occurred (to Iran, North Korea and Libya). The central interest in this study is the extent to which Pakistan's security interests and its nuclear behaviour were factored into the global non-proliferation regime and why that regime failed to constrain Pakistan's nuclear behaviour so that it first developed nuclear weapons and then proliferated them to states which are a matter of concern to the international community.

The thesis seeks to explain Pakistan's nuclear behaviour through the prism of regime theory and a three-models approach (neo-realism, neo-liberalism and constructivism). The thesis also provides an in-depth analytical account of whether or how far international institutions and regimes can succeed in influencing the behaviour of states through cooperation, a theme suggested by regime theory.

The three schools of thought offer useful arguments to help explain why it was that Pakistan did not choose to join the non-proliferation regime and the constraints which international institutions face with regard to non-signatory states. Drawing lessons from the case of Pakistan, the thesis suggests ways in which global non-proliferation institutions might be strengthened in the future, which would also help in linking Pakistan more firmly to the non-proliferation regime. These changes would also help to align other non-NPT states, such as India and Israel, with the non-proliferation regime and offer a firmer challenge to other states to change their conduct – states such as North Korea and Iran, which remain a cause of concern to the international community.

Table of Contents

<i>Abstract</i>	<i>i</i>
<i>Contents</i>	<i>ii-iv</i>
<i>Acknowledgements</i>	<i>v-vi</i>
<i>Abbreviations</i>	<i>vii-ix</i>
Introduction	1
Aims and Objectives	1
Theoretical Perspective and Historical Literature	9
Structure of the Thesis	15
Methodology	18
Chapter One: Regime Theory, theories of IR and International Institutions	22
Part I	
Regime Theory and theories of IR	22
A three Model Approach	28
Part II	
The International non-proliferation order: the NPT and relevance of Regime Theory	39
Part III	
The NPT and Nuclear Behaviour in South Asia (before 1998)	53
The Status of the NPT: Regime theory and the three models approach	59
Chapter Two: Identifying Pakistan's Nuclear Behaviour (1950s-1986)	63
Part I	
Chapter Introduction	63
Strategic Culture	65
From independence to 1965:	
Comparison of Indo–Pakistan Nuclear capacities	67
The 1965 War and Policy shifts in Pakistan:	
Elite Decisions and a Changing Threat Perception	77
The Security Factor (1970–75)	82

Part II

Pakistan Achieves Nuclear Capability: the role of the scientific elite, 1975–87	92
--	----

Chapter Three: Pakistan's Nuclear Behaviour in Crisis Situations: From Non-Weaponized Deterrence to Weaponized Deterrence (1986–1999)

Chapter Introduction	112
Understanding a Regional Environment in Crisis Situations	113
Pakistan's actual nuclear behaviour in crisis situations	116
Pakistan's behaviour from 1990 onwards: developments in non-proliferation	128
Towards the 1998 tests	134
The Kargil War:	
Pakistan's behaviour and the perception of security paradox	141

Chapter Four: Pakistan's Transition from Vertical proliferation to Horizontal Proliferation

Chapter Introduction	147
Khan's Behaviour from the 1990s	149
The case of Iran	152
The case of North Korea	163
The Case of Libya	169
Khan's behaviour and the responsibility of the state	173
The Responsibility of Institutions: How a State's Behaviour may also reflect the Weakness of Global Institutions	176

Chapter Five: Pakistan's Behaviour after the Khan Revelations (2004 – 2009)

Part I

Chapter Introduction	181
Global Initiatives towards non-proliferation (cooperation-based approach)	183

Part II

Pakistan establishes a new nuclear taboo	194
--	-----

Chapter six: Pakistan as part of the Non-proliferation Challenges – Presenting Solutions	217
Part I	
Chapter Introduction	217
Pakistan as a part of Non-Proliferation Policies and global problems	219
Part II	
Solutions drawn from Regime Theory	231
Reviewing the NPT framework in ways which may help to change the behaviour of state	233
Regulating Non-NPT states' behaviour – preventing risk and crisis spreading from the South Asian region	238
An old debate in a new context – Regime Theory, neoliberals and constructivists	252
Conclusion: Pakistan's Nuclear Behaviour: Regime Theory and the Non-proliferation Regime	255
Pakistan's Behaviour: the three models approach	256
Why the NPT failed in the case of Pakistan and why Pakistan continues to remain outside the treaty	260
Pakistan establishes the new nuclear taboo – the Role of International Institutions following the A. Q. Khan Revelations	263
How institutional counter-proliferation cooperation might evolve	266
What does the case study suggest about the strengths and limits of the three models approach?	271
The adequacy and limits of regime theory	273
Appendix	275
Bibliography	277

Acknowledgements

Writing a dissertation is a time of immense paradoxes for international students in the United Kingdom. At times life may be enveloped by remarkably active social circles and yet at others the loneliness and isolation one feels in conducting a sensitive project of this magnitude for the first time can be overwhelming. It has been my God-gifted fortune through these years to have been surrounded by highly expert supervisors, professional mentors, loyal friends – and most of all, my parents and siblings who have supported me while living thousands of miles away to an extent that only someone who has also gone through this experience can appreciate.

My first supervisor, Professor Adrian Hyde-Price, with an extensive and significant academic record in the field, and an ability to communicate his vision, was of immeasurable inspiration to my approach to political science and my desire to become an expert on my subject. Sincere and deep gratitude then goes to Professor Mark Phythian, who succeeded Professor Hyde-Price and encouraged me at all stages with his professionalism, his scholarship and his regular, prompted and detailed supervision. His support and cooperation throughout greatly facilitated the completion of this dissertation within the required time limit.

There are two people who have touched my life in such a way that words can scarcely express, to each of whom this dissertation is humbly dedicated. Beyond the realm of non-proliferation issues, Professor Richard Bonney, with his immense academic record, has been a great friend and mentor and has come to understand me like few others. I give him thanks from the core of my heart for his valuable time, support and encouragement over the last five years. Another great, humble and kind person came into my life when I was at the initial stages of research and he has been a

great source of encouragement and guide in enhancing my self-confidence: Professor Richard Johnson will be remembered for my entire life for his skilled guidance in my study of international regimes. I have benefited enormously from each of these experts' individual expertise.

My sincere thanks also go to Dr. Hans Blix, Former Director-General of the IAEA, Dr. Olli Heinenon, Deputy Director of the IAEA and Director-General of international safeguards and Dr. Stephen P. Cohen for their precious time so that I could conduct interviews with them. I am deeply grateful to the Institute of Nuclear Materials Management for giving me the opportunity to speak at its 50th annual meeting in Tucson, Arizona which was a great learning experience in my doctoral research. I greatly benefited from this conference and interviews which I conducted during my visit to the US in 2009. I owe an especial gratitude to General (rtd) Ehsan, former Chairman of the Joint Chiefs of Staff and Director-General ISI, Pakistan for his precious time for interview, and also Mr. Asif Durrani, Deputy High Commissioner, High Commissioner of Pakistan again for his precious time and generous advice in several interviews.

At the University of Leicester, I would not have been able to complete this dissertation without the facilities of the David Wilson Library. In particular, the Document Supply Services did a superb job in making available research material in a timely fashion through the British Library. The facilities given by the Department of Politics and International Relations, University of Leicester, also contributed immensely in finalizing this research.

Abbreviations

ABM	Anti-Ballistic Missile
AEC	Atomic Energy Commission
AER	Atomic Energy Research
AG	Australia Group
AP	Additional Protocol
ATGM	Anti -Tank Guided Missile
BMD	Ballistic Missile Defence
C&C	Command and Control
CANDU	Canada Deuterium Uranium
CBMs	Confidence Building Measures
CCCCIISR	Computerised Command Control, Communications, Information Intelligence and Surveillance
CD	Conference on Disarmament
CENTO	Central Treaty Organization
CIA	Central Intelligence Agency
CIR	Canada-India-Reactor
CNS	Centre for Non-proliferation Studies
COCOM	Coordinating Committee for Multilateral Export Controls
CTBT	Comprehensive Test Ban Treaty
CTR	Cooperative Threat Reduction
CWC	Chemical Weapons Convention
DCC	Defence Committee of Cabinet
DG	Director General
DOD	Department of Defence
DPRK	Democratic People's Republic of Korea
DTD	Director of Technical Development
DU	Dual Use
EC	European Community
ED	Existential Deterrence
ENDC	Eighteen Nations Disarmament Committee
ERL	Engineering Research Laboratories
EU	European Union
EURATOM	European Atomic Energy Community
EXBS	Export Control and Related Border Security Assistance
FMCT	Fissile Material Cut off Treaty
FSS	Full-Scope Safeguards
FSU	Former Soviet Union
GP	Global Partnership
HEU	Highly Enrichment Uranium
IAEA	International Atomic Energy Agency
IAEC	Indian Atomic Energy Commission
ICBMs	Intercontinental Ballistic Missiles
ICTP	International Centre for Theoretical Physics
IGMDP	Integrated Missiles Development Programme
INF	Intermediate-Range Nuclear Forces Treaty
INMM	Institute of Nuclear Materials Management
IR	International Relations

IRBMs	Intermediate Range Ballistic Missiles
ISI	Inter Services Intelligence
ITBD	Illicit Trafficking Database
KANUPP	Karachi Nuclear Power Plant
KRL	Khan Research Laboratory
KT	Kiloton
LoC	Line of Control
LTBT	Limited Test Ban Treaty
MNCs	Multi National Companies
MoD	Ministry of Defence
MoU	Memorandum of Understanding
MPI	Mega Ports Initiative
MRBM	Medium Range Ballistic Missile
MTCR	Missile Technology Control Regime
MW	Megawatt
NATO	North Atlantic Treaty Organization
NCA	National Command Authority
NDU	National Defence University
NMD	National Missile Defence
NNSA	National Nuclear Security Administration
NNWS	Non Nuclear Weapon States
NPCIL	Nuclear Power Corporation of India
NPR	Nuclear Posture Review
NPT	Nuclear Non-proliferation Treaty
NPTRC	Non-proliferation Treaty Review Conference
NSAP	National Security Action Plan
NSG	Nuclear Suppliers Group
NTI	Nuclear Threat Initiative
NWD	Non-Weaponized Deterrence
NWFP	North West Frontier Province
NWFZs	Nuclear Weapons Free Zones
NWFZSA	Nuclear Weapons Free Zone in South Asia
NWS	Nuclear Weapons States
OSCE	Organization for Security and Co-operation in Europe
PAEC	Pakistan Atomic Energy Commission
PALs	Permissive Action Links
PAROS	Prevention of an Arms Race in Outer Space
PARR	Pakistan Research Reactor
PIDC	Pakistan Industrial Development Corporation
PINSTECH	Pakistan Institute of Nuclear Science and Technology
PITAC	Pakistan Industrial and Technical Centre
PNE	Peaceful Nuclear Explosions
PNRA	Pakistan Nuclear Regulatory Authority
PNSRP	Pakistan Nuclear Safety and Radiation Protection Regulations
PSI	Proliferation Security Initiative
PTBT	Partial Test Ban Treaty
R&D	Research and Development
SALT	Strategic Arms Limitation Talks
SAM	Surface to Air Missile

SCI	Container Security Initiative
SEATO	Southeast Asia Treaty Organization
SECDIV	Strategic Export Control Divisions
SFCD	Strategic Force Communication Planning
SLBMs	Submarine Launched Ballistic Missiles
SPD	Strategic Plan Division
SQ	Significant Quantity
SRAM	Short Range Attack Missile
SRO	Statutory Regulatory Orders
SSBNs	Trident Ballistic Missile Submarine
SSOD	Special Session on Disarmament
START	Strategic Arms Reduction Talks
TIFR	Tata Institute of Fundamental Research
TMD	Theater Missile Defence
UAV	Unnamed Aerial Vehicles
UE	Uranium Enrichment
UF6	Uranium Hexafluoride
UKAEA	United Kingdom Atomic Energy Agency
UN	United Nations
UNSC	United Nations Security Council
UNSCR	United Nations Security Council Resolution
US	United States
WA	Wassenaar Arrangements
WD	Weaponized Deterrence
WMD	Weapon of Mass Destruction
WW II	World War II
ZC	Zangger Committee

Introduction

Aims and Objectives

The aim of this thesis is to examine Pakistan's nuclear behaviour in the light of the global non-proliferation system. Pakistan is an extremely important case with reference to the global non-proliferation order because of: 1) The nuclear status of the country 2) its status as a non-signatory state to the NPT; 3) and its status as an admitted proliferator (to Iran, North Korea and Libya). Its geo-strategic location, the current challenges it faces from Talibanization and terrorism, the system of governance, the Sino-Pakistan-US security triangle and US collaboration with Pakistan in the 'war on terror', the country's religious ethos, all give it an exceptional academic and practical import. Moreover, study of the Pakistan case and experience can illuminate nuclear policy dynamics and the role of international institutions in regulating states' behaviour in other regions as well. Hence, an understanding of the Pakistani case can offer transferable lessons.

Pakistan's nuclear build-up, which culminated in the 1998 nuclear tests, has attracted a great deal of academic research from across the globe. The focus has been mainly on the strategic environment of the South Asian region, which determined the security imperatives under which Pakistan's nuclear armament took place. Right from the beginning, academic discourse on the pros and cons of the acquisition of nuclear weapons by Pakistan has been divided between optimists and pessimists such as, respectively, Kenneth Waltz and Scott Sagan. Waltz's argument is rooted in Rational Deterrence Theory. Here, the possession of nuclear weapons by two states is held to reduce the risk of war between them primarily because the costs of war and its consequences are immense. Waltz and other 'proliferation optimists' argue that 'more

may be better'.¹ Based on this, Waltz believes that the emergence of new nuclear weapons states – such as India and Pakistan – would lead to greater stability on a systemic level.² The Waltzian position suggests that nuclear weapons have acted as a deterrent in the India–Pakistan context. Such arguments have been further developed by Bruce de Mesquita and John Mearsheimer.³

In response to optimists, Scott Sagan and other 'proliferation pessimists' argue that 'more will be worse'⁴ because the spread of nuclear weapons to a larger number of states increases the chance of preventive wars, crisis, instability and accidental nuclear detonation. Sagan refutes the Waltzian position by suggesting that states like India and Pakistan have a weak institutional organization through which to ensure civilian control

¹ Kenneth N. Waltz, 'More May Be Better' in Scott D. Sagan and Kenneth N. Waltz (eds.), *The Spread of Nuclear Weapons: A Debate Renewed* (New York: W W Norton, 2002); Kenneth N. Waltz, *Theory of International Politics* (New York: McGraw-Hill Higher Education, 1979); John J. Mearsheimer, 'Back to the Future: Instability in Europe after the Cold War', *International Security*, Vol.15, No.1 (Summer 1990), pp.5-56; John J. Mearsheimer, 'The Case for a Ukrainian Nuclear Deterrent', *Foreign Affairs*, Vol.72, No.3 (Summer 1993), pp.50-66; Steven Van Evera, 'Primed for Peace: Europe after the Cold War', *International Security*, Vol.15, No.3 (Winter 1990/91), pp.7-57; John Lewis Gaddis, 'The Long Peace', *International Security*, Vol.10, No.4 (Spring 1986), pp.99-142; Bruce Bueno de Mesquita and William H. Riker, 'An Assessment of the Merits of Selective Nuclear Proliferation', *Journal of Conflict Resolution*, Vol.26, No.2 (June 1982), pp.283-306; David J. Karl, 'Proliferation Pessimism and Emerging Nuclear Powers', *International Security*, Vol.21, No.3. (Winter 1996-1997), pp.87-119; Jordan Seng, 'Less is More: Command and Control Advantages of Minor Nuclear States', *Security Studies*, Vol.6, No.4 (Summer 1997), pp.50-92; Devin T. Hagerty, *The Consequences of Nuclear Proliferation: Lessons from South Asia* (Cambridge: Massachusetts, 1998).

² See Sagan and Waltz, *The Spread of Nuclear Weapons: A Debate Renewed*.

³ Bruce de Mesquita and William H. Riker, 'An Assessment of the Merits of Selective Nuclear Proliferation', *Journal of Conflict Resolution*, Vol.26, No.2, (June 1982), p.283. Mearsheimer, 'Back to the Future:'. Scott D. Sagan and Kenneth N. Waltz, *The Spread of Nuclear Weapons A Debate Renewed*, p.47.

⁴ Scott D. Sagan, *More Will Be Worse*, in Sagan and Waltz, *The Spread of Nuclear Weapons: A Debate Renewed*; Scott D. Sagan, *The Limits of Safety: Organizations, Accidents, and Nuclear Weapons* (Princeton, NJ: Princeton University Press, 1993); Bruce G. Blair, *The Logic of Accidental Nuclear War* (Washington D.C.: Brookings University Press, 1993); Bruce G. Blair, 'Nuclear Inadvertence: Theory and Evidence', *Security Studies*, Vol.3, No.3 (Spring 1994), pp.494–500; Peter Douglas Feaver, *Guarding the Guardians: Civilian Control of Nuclear Weapons in the United States* (Ithaca, NY: Cornell University Press, 1993); Peter Douglas Feaver, 'The Politics of Inadvertence', *Security Studies*, Vol.3, No.3 (Spring 1994), pp.501–508; Steven E. Miller, 'The Case against a Ukrainian Nuclear Deterrent', *Foreign Affairs*, Vol.73, No.3 (Summer 1993), pp.67-80; Peter R. Lavoy, 'The Strategic Consequences of Nuclear Proliferation', *Security Studies*, Vol.4, No.4 (Summer 1995), pp.695–753; Peter Douglas Feaver, 'Neo-optimists and the Enduring Problem of Nuclear Proliferation', *Security Studies*, Vol.6, No.4 (Summer 1997), pp.126-136; Lyle J. Goldstein, *Preventive Attack and Weapons of Mass Destruction: A Comparative Historical Analysis* (Stanford University Press, 2006); Jeffrey W. Knopf, 'Recasting the Optimism/Pessimism Debate', *Security Studies*, Vol.12, No.1 (Autumn 2002), pp.41-96; Dinshaw Mistry, 'Tempering Optimism about Nuclear Deterrence in South Asia', *Security Studies*, Vol.18, No.1 (January 2009), p.148-182.

over nuclear decision-making.⁵ He further believes that military organizations are ‘inward looking’, heavily influenced by domestic politics, and therefore decisions regarding nuclear weapons might be based on issues of domestic stability rather than systemic threats. For Sagan, historical rivalry and protracted ideological and territorial disputes may drive India and Pakistan up the ‘nuclear ladder’ during a crisis. This might happen either wilfully, by accident or by miscalculation.⁶

Peter Lavoy goes further, supplementing a realist approach with a variant of strategic culture (understood as ‘the sum total of ideas, conditioned emotional responses, and patterns of [behaviour] that members of the national strategic community have acquired through instruction or imitation and share with each other with regard to nuclear strategy’),⁷ to fill in the gap in the understanding of Pakistan’s security environment.⁸ His theoretical model combines elements of realism with elements of culture by adding a third dimension: the critical role of individual elites whom he calls ‘mythmakers’. For Lavoy, these mythmakers identify and respond to structural (realist) incentives in a manner consistent with culturally accepted modes of behaviour. For him these mythmakers redefine and transform the strategic culture in line with their own strategic preferences and their understanding of the area within which they can manoeuvre while accepting the constraints of the international security system. He believes that these mythmakers operate within the constraints of both the international environment and their nation’s political culture. These mythmakers, he believes, have some degree of freedom to reorient and expand the internal and external boundaries of their behaviour.

⁵ Sagan, *More Will Be Worse*. Sagan and Waltz, *The Spread of Nuclear Weapons: A Debate Renewed*, pp.90-92.

⁶ Quoted in review essay by Namrata Goswami, ‘The Essence of South Asian Nuclear Debate’, *Strategic Analysis*, Vol.30, No.3 (Jul-Sep 2006).

⁷ Jack Snyder, ‘The Soviet Strategic Culture: Implications for Nuclear Options’ (Santa Monica: Calif.: RAND Corporation, (1977), R-2154-AF,8.

⁸ Peter R. Lavoy, ‘Pakistan’s Strategic Culture’, *Defence Threat Reduction Agency* (31 October 2006), pp.8-15. <http://www.fas.org/irp/agency/dod/dtra/pakistan.pdf>

Feroz Hassan Khan argues that the security factor played the main role in Pakistan's nuclear behaviour.⁹ Pakistan pursued the involvement of international institutions, alliances and the development of its military and conventional capability in the hope of keeping abreast with India's growing power. Having failed on all fronts, Pakistan determined that only by matching India's conventional – and especially its nuclear – development could its security be ensured. Hassan Askari Rizvi maintains that the attributes of Pakistan's strategic culture (analysed in chapter two) shaped Pakistan's security and foreign policy options. These attributes may be 'historical experiences, and narratives of the policymakers, Pakistan's perceptions of the adversary's intentions and capabilities, and the challenges it encounters in its interaction with the rest of the world, especially the immediate neighbours'.¹⁰ These factors take into account the beliefs, values, and orientations of the policymakers concerning security issues. However, he argues that the emphasis on strategic culture does not totally exclude other considerations, such as realism, professionalism, and organizational imperatives.

Many of Pakistan's security-related decisions have involved elements of more than one approach. The strategic culture approach helps us understand the historical and psychological dynamics of decision-making. It highlights the impact of ideological and other societal variables.¹¹ Thus, Hassan Askari argues that realism rules the region and security remains the main driver for Pakistan's nuclear weapons development. Bhumitra

⁹ Feroz Hassan Khan, 'Nuclear Proliferation Motivations,' *The Nonproliferation Review*, Vol.13, No.3 (November 2006). Brigadier Feroz Hassan Khan (retd.), 'Pakistan's Security Perspectives,' *Force Magazine*, New Delhi, India (07 April 2005).

<http://www.sassu.org.uk/pdfs/Article%20for%20Force%20magazine%20India.pdf>

Feroz Hassan Khan, 'Trust and Confidence Building Measures in South Asia,' *Pakistan Defence Review*, Vol.12, No.2, (Pakistan: Winter 1998). Feroz Hassan Khan, 'The Power Curves and Wars in South Asia,' *Strategic Studies*, Vol.2/93, Islamabad, Pakistan.

¹⁰ Hasan Askari Rizvi, 'Pakistan's Strategic Culture' in *South Asia in 2020: Future Strategic Balance and Alliances*, Michael R. Chambers (ed.), Strategic Studies Institute (SSI) (2002), p.308.

<http://www.strategicstudiesinstitute.army.mil/pubs/display.cfm?pubid=108>

¹¹ Ibid.

Chakma¹² and George Perkovich (who, while surveying India's nuclear history in his *India's Nuclear Bomb* also traces Pakistan's behaviour in parallel)¹³ also consider that security remains the main driver. Samina Ahmed maintains that Pakistan's nuclear policy is overshadowed by India and the context of India's nuclear developments. However, she maintains that the international environment also has an impact on Pakistan's nuclear policy in its own right. She analyzes Pakistan's nuclear policy in the light of internal, regional and international imperatives. These three imperatives, she argues, are interlinked and cannot be dealt with in isolation.¹⁴ Samina Ahmed and colleagues maintain that the role of public opinion and the elite also need to be taken into account in the South Asian context.¹⁵ Kamal Matinuddin and Mirza Aslam Beg in their general assumptions indicate that strategic culture and security considerations alone matter in Pakistan's decision-making.¹⁶ Some analysts such as Ashok Kapur assume that the Pakistan elites acted along these lines when they decided to develop nuclear weapons based on political reasons.¹⁷ Akhtar Ali maintains that India's behaviour shaped both the parameters and the specific direction of Pakistan's nuclear programme.

However, these scholars scarcely consider Pakistan's behaviour in relation to global non-proliferation discourse based on a theoretical approach. Pakistan's experience in

¹² Bhumitra Chakma, *Pakistan's Nuclear Weapons* (London: Routledge, 2008).

¹³ George Perkovich, *India's Nuclear Bomb: The Impact on Global Proliferation* (London: University of California Press, 1999).

¹⁴ Samina Ahmed and David Cartright, (eds.) *Pakistan and the Bomb* (Notre Dame: The University of Notre Dame Press, 1998), p.16.

¹⁵ Samina Ahmed, et al., 'Public Opinion and Nuclear Options for South Asia', *Asian Survey*, Vol.38, No.8 (Aug. 1998).

¹⁶ Kamal Matinuddin, *The Nuclearization of South Asia* (Oxford University Press: 2002).

General Mirza Aslam Beg, 'Pakistan's Nuclear Programme: A National Security Perspective,' *National Development and Security*, Vol.2, (February 1993). General Mirza Aslam Beg, 'Pakistan's Nuclear Imperatives,' *National Development and Security*, Vol. III, No.2, Serial No.10 (November 1994). General Mirza Aslam Beg, 'The Demise of Nuclear non-proliferation,' A *FRIENDS* publication, <http://www.friends.org.pk/Beg/The%20Demise%20of%20Nuclear%20non-proliferation.htm>.

General Mirza Aslam Beg, 'Nuclear Proliferation – a Taxonomy,' A *FRIENDS* publication. <http://www.friends.org.pk/Beg/Nuclear%20Proliferation.htm>

¹⁷ Ashok Kapur, *Pakistan's Nuclear Development* (London: Routledge Kegan & Paul, 1987), pp.1-11.

acquiring its nuclear weapons reveals the complexities and dilemmas of a determined nation confronting an evolving non-proliferation regime. Rather than simply narrating Pakistan's nuclear behaviour through a description of Pakistan's security parameters in the South Asian context (using, as some scholars have done, the analytical tools offered by realism), this thesis has a more ambitious aim motivated by three key questions:

1. To what extent has Pakistan's nuclear behaviour been influenced by the global discourse of the non-proliferation regime?
2. Why is it that international institutions such as the NPT failed to constrain Pakistan's nuclear behaviour?
3. How can the behaviour of states be better regulated in the future through international institutions and cooperation?

Within these three questions, the thesis aims to address a set of further specific questions:

- what is the role of international institutions in building cooperation among states and helping to regulate their behaviour?
- what role do norms play in the international system in regulating the behaviour of states?
- why it is that some states adhere to global norms, while others act against them? Why is it that most states cooperate and prefer to join global institutions and the non-proliferation regime, while a minority remain outside?
- why does a state such as Pakistan not adhere to the international institutions and global anti-nuclear norms which comprise the non-proliferation regime?

- why did the non-proliferation regime fail to constrain the behaviour of certain states (such as Pakistan) whereas it did in the case of others?
- if institutions are what matter, as suggested by neo-liberals, then why is it that three states (Israel, India and Pakistan) remain outside the non-proliferation regime while other states (such as Iran) are behaving aggressively in breach of anti-nuclear norms?

This thesis attempts to correct an imbalance in the existing discussion of international security institutions. Its purpose is to preserve the balance of debate on international institutions and their role in building cooperation by adding it to the much marginalised and greatly misunderstood voice of realist international theory and the equally ignored or misapprehended international theory of neo-liberalism or constructivism. In doing so, it seeks to open up space for discussion, not to close it down, thereby facilitating a more balanced ‘conversation’ on the future role of international institutions in the global security arena.

This study argues that a powerful taboo against the *use* of nuclear weapons has been developed in the global system (as argued by Nina Tannenwald)¹⁸ but not against the *proliferation* of nuclear weapons. Therefore the study further argues that Pakistan’s nuclear weapons development cannot be accounted for without taking into account non-proliferation developments at a global level.

Thus, the main objective of this study is to remedy the existing shortcomings of the non-proliferation system by providing an in-depth analytic account as to whether international institutions and regimes regulate states’ behaviour through cooperation, a theme taken from regime theory. The study takes the nuclear non-proliferation regime as an institution covering several important legal and organizational components such

¹⁸ Nina Tannenwald, *The Nuclear Taboo: The United States and the Non-Use of Nuclear Weapons since 1945* (Cambridge: Cambridge University Press, 2006).

as the NPT, International Atomic Energy Agency (IAEA), multilateral export control regimes (Nuclear Suppliers Group (NSG), the Zangger Committee (ZC), Missile Technology Control Regime (MTCR), Australia Group (AG) and the Wassenaar Arrangements (WA)), which provide the context for studying the case of Pakistan. Within this debate, the study gives an in-depth account of the motives and dynamics of Pakistan's nuclear policy (not to join the NPT regime) and the security paradigms which led it to build a nuclear bomb. The question here is not whether nuclear weapons improve Pakistan's security. Instead, the central interest is the extent to which Pakistan's security considerations and its nuclear behaviour were factored into the global non-proliferation regime; and why that regime failed to constrain Pakistan's nuclear behaviour so that it was able to develop nuclear weapons and then allowed the proliferation of this technology to states which are a matter of concern to the international community.¹⁹

Finally, the thesis sheds light upon both the contributions and shortcomings of regime theory and three schools of thought (Realism, Neo-liberal Institutionalism and Constructivism) by exploring their applicability and premises in ways that may guide a future policy-oriented approach towards the NPT. The world will become more secure only if the behaviour of states towards the acquisition of nuclear weapons is changed. States' behaviour can only be controlled through an effective non-proliferation regime.

¹⁹ It should be noted here that the Pakistan government has claimed repeatedly that A. Q. Khan acted independently rather than as a government agent engaged in state-sponsored proliferation. This issue will be discussed fully in Chapter 4.

Theoretical Perspective and Historical Literature

Theory building involves a number of distinct tasks: the first task is to clearly define terms and concepts with which to categorise data and map their relevance to the study. The second task is to identify key variables in order to provide guidance for sifting through an almost limitless mass of data and selecting the relevant data as guided by the theory. The third is to develop a theoretical explanation for the process which is under investigation, which remains the most difficult task. It requires more inspiration and a high degree of constructive thought as Hyde-Price says, borrowing from Einstein: ‘in pure research, imagination is more important than knowledge.’²⁰ Thus, in this thesis, the deployment of theoretical arguments is not with the purpose of explaining everything by them but rather to elucidate key matters of consequence. The study seeks to explain and identify variables that account for the phenomena under investigation. By focusing on a specific set of research questions, relevant theories are chosen which aim to shed light on a few important aspects of the behaviour of states. This approach helps us to explore a range of suggestions.

Therefore, the necessary prerequisite for the development of an appropriate explanatory model is a theoretical approach which recognizes the importance of the nuclear non-proliferation regime and its relationship with the behaviour of states in the global arena. *Regime theory*²¹ is an international relations approach, derived from

²⁰ Adrian Hyde-Price, *European Security in the Twenty-first Century* (London: Routledge, 2007), p.7.

²¹ Key texts include: Volker Rittberger and Peter Mayer (eds.), *Regime Theory and International Relations* (New York: Oxford University Press, 1993). Gregory Paul Granger, *The Relevance of Regime Theory to efforts at Nuclear Non-proliferation*, PhD Dissertation (University Microfilms, Inc., 1997). Robert M. A. Crawford, *Regime Theory in the Post-Cold War World: Rethinking Neoliberal Approaches to International Relations*, (Sudbury: Dartmouth Publishing Co Ltd: 1996). Jan-Stefa Fritz, *Regime Theory: A new Theory of International Relations*, PhD dissertation (University Microfilms, Inc., 2000). Gregory Paul, *The Relevance of Regime Theory to Efforts at Nuclear Non-Proliferation: An Assessment (Iraq, North Korea)* (University of New Orleans, Political Science PhD, 1996). Donald R. Rothwell, *Regime Theory in International Law: the Antarctic treaty system as a case study* (1991). Men

liberal traditions and elaborated in the 1980s. The theory argues that **cooperation** is possible in the anarchic system of states and **international regimes or institutions** affect the **behaviour** of states. The theory focuses on ‘**cooperation**’ (in the security realm) which must be embedded in **norms**.

The thesis extracts guidelines from the three schools of thought to ascertain the role of institutions in the complex phenomenon of nuclear proliferation. For example, the realist school of thought supports the argument in this study that great powers dominate the system; interests and power play an influential role in regime formation and maintenance. In contrast to the realists, the neo-liberals and constructivists argue strongly in favour of cooperation which reduces the risk of anarchy through an authoritative institutional approach and social process. They believe that institutions and regimes define appropriate behaviour through norms. The contributions of these schools to an understanding of the development and role of institutions are compared and contrasted to examine the role of international institutions and their effects on the behaviour of states in the past and their likely behaviour in the future.

This framework also provides a conceptual basis against which Dr. A. Q. Khan’s case may usefully be discussed (Khan is a leading Pakistani scientist who is held responsible for the proliferation of nuclear weapons technology). The Khan case helps in understanding why the existing architecture for controlling the spread of nuclear weapons is in trouble. The thesis analyses Pakistan’s nuclear behaviour, its motivations, nuclear activities and the failure of international institutions to change Pakistan’s behaviour. Within this framework, the three schools of thought offer useful instruments to understand and explain why states do not choose to cooperate and join international institutions and the constraints international institutions face in this regard.

Honghua, ‘Critiques of the Theory of International Regimes: The Viewpoints of Main Western Schools of thought’. www.irchina.org/en/pdf/mhh1.pdf

A body of literature exists on Pakistan's nuclear weapons development before and after the May 1998 tests, works by Kapur,²² Zahid Malik,²³ Rehman,²⁴ Armstrong,²⁵ Chakma,²⁶ Naeem Salik²⁷ and Mario Esteban Carranza among others.²⁸ There is much existing material on South Asia in the context of nuclear weapons development: on the stability-instability paradox ('[t]o the extent that the military balance is stable at the level of all-out nuclear war, it will become less stable at lower levels of violence');²⁹ on the strategic structure of states; on nuclear safety and security; on the future posture of states in South Asia, and so on. Kapur and Ganguly's edited volume³⁰ highlights from an Indian perspective the effect of nuclear weapons on the behaviour of newly nuclear states, and the potential for future international crises in South Asia. It focuses on the debate between those who believe that nuclear weapons have stabilized the subcontinent, and those who believe that nuclear weapons have made South Asia more conflict prone. It further develops the debate by suggesting competing analyses of major regional crises.³¹ It also explores the implications of the South Asian nuclear experience for potential new nuclear states discussing the case of

²² Ashok Kapur, *Pakistan's Nuclear Development* (New York: Croom Helm, 1987). Ashok Kapur, *India's Nuclear Option: Atomic Diplomacy and Decision Making* (Praeger Publishers Inc: 1976). Ashok Kapur, *Pokhran and Beyond: India's Nuclear Weapons Capability* (OUP India: 2003). Ashok Kapur, *India - from Regional to World Power* (London: Routledge: 2006), S. Paul Kapur, *Dangerous Deterrent: Nuclear Weapons Proliferation and Conflict in South Asia* (Stanford University Press: 2008), Sumit Ganguly and Paul Kapur (eds.), *Nuclear Proliferation in South Asia: Crisis Behavior and the Bomb* (New York: Routledge, 2008).

²³ Zahid Malik, *A. Q. Khan and the Islamic Bomb* (Islamabad: Hurmat Publications, 1992).

²⁴ Shahid-ur-Rahman, *Long Road to Chagai* (Islamabad: Print Wise, 1999).

²⁵ David Armstrong, *America and the Islamic Bomb: The Deadly Compromise* (Hanover, N.H.: Steerforth Press, 2007).

²⁶ Chakma, *Pakistan's Nuclear Weapons*.

²⁷ Naeem Salik, *The Genesis of South Asian Nuclear Deterrence: Pakistan's Perspective*, (Karachi; Oxford: Oxford University Press, 2009).

²⁸ Mario Esteban Carranza, *South Asian Security and International Nuclear Order* (Aldershot: Ashgate Publishing Limited, 2009).

²⁹ Robert Jervis, *The Illogic of American Nuclear Strategy* (Ithaca: Cornell University Press, 1984), p.31. Quoted in Michael Krepon, 'The Stability Instability Paradox, misperception and Escalation Control in South Asia', *Stimson Centre* (May 2003), p.3.

³⁰ Sumit Ganguly and S. Paul Kapur (eds.), *Nuclear Proliferation in South Asia: Crisis Behavior and the Bomb* (London: Routledge, 2009).

³¹ The 1987 'Brasstacks' crisis, the Indo-Pakistani crisis of 1990, the 1999 Kargil war and the 2001–2 Indo-Pakistani militarized standoff (which occurred after the nuclear tests). An explanation of all these crises is included in detail below.

North Korea and Iran. However, Ganguly and Kapur still fail to provide an accurate depiction of Indian status-oriented nuclear ambitions and its links with Pakistan's nuclear behaviour in global non-proliferation discourse using a theoretical framework as proposed in this study.

Chakma's study provides a comprehensive study of a nuclear-armed Pakistan, investigating the implications of its emergence as a nuclear weapons state and setting out the historical background of Pakistani nuclear development. He explains the changes and continuities in Pakistan's nuclear policy, assessing its emerging force posture and the implications for Pakistani, South Asian and global security. He goes into detail exploring Pakistan's nuclear doctrine, the Pakistani nuclear command and control system, and the relationship between Pakistan and the Non-Proliferation regime. Chakma's focus is mainly on security parameters. He does not map out states' normative behaviour and the linkages of security parameters with the regional strategic culture and global non-proliferation institutions and nuclear taboo. Levy and Scott-Clark³² reveal how Pakistan built its nuclear arsenal with United States (US) aid money and subsequently engaged in proliferation. It also reveals that every administration from Jimmy Carter to George W. Bush condoned Pakistan's nuclear activity, destroying and falsifying evidence provided by US and Western intelligence agencies, lying about Pakistan's intentions and capability, and facilitating the spread of the very weapons it notionally sought to control. Salik³³ provides a thorough analysis of the dynamics of South Asian nuclearization, from nuclear weapons development, to the safety and security of Pakistan's nuclear weapons and A. Q. Khan's proliferation network. However, as a retired member of the military he projects a one-sided picture, which is

³² Adrian Levy and Catherine Scott-Clark, *Deception* (New York: Walker & Company, 2007). Christopher O. Clary, 'The A. Q. Khan Network: Causes and Implications', *Naval Postgraduate School Thesis* (2005). Gordon Corera, *Shopping for Bombs* (New York: Oxford University Press, 2006). 'Nuclear Black Markets: Pakistan, A Q Khan and The Rise of Proliferation Networks', *IISS Dossier* (2007).

³³ Salik, *The Genesis of South Asian Nuclear Deterrence*.

the Pakistan perspective. Nor does he integrate his analysis with IR theories and global normative concepts which is the task of the present study. Carranza discusses the case of South Asia and highlights the prospects for an alternative International Nuclear Order based on NPT revival and reinforcement and the continuing marginalization of nuclear weapons from international politics. The author considers the possibility of establishing a robust nuclear arms control regime in South Asia as part of a broader effort to revive global nuclear arms control and disarmament negotiations. Carranza's understanding of the perception and strategic culture of the Pakistani elites is limited in comparison with that mapped out in this analysis. Furthermore, the present analysis is based on a well-structured and carefully planned theoretical approach, while the proposed solutions go far beyond Carranza's work.

There is also a body of scholarly material available on Pakistan's nuclear proliferation in addition to Levy and Scott-Clark: this includes work by Clary, Corera, and the IISS Strategic Dossier. Corera's study reveals in detail how A. Q. Khan exploited the forces of globalisation and loopholes in the NPT. This thesis goes beyond Corera's work and instead of defending the debate through empirical data it takes its guidelines from the theoretical debate and presents solutions for the international non-proliferation system, drawing lessons from the case study of Pakistan.

There are a number of studies on the global non-proliferation discourse dealing with the NPT by Schoettle,³⁴ Babu,³⁵ Rauf and Johnson,³⁶ Muller et al.,³⁷ Mazari,³⁸

³⁴ E. C. B. Schoettle, 'Posture for Non-Proliferation: Arms Limitation and Security Policies to Minimize Nuclear Proliferation' (London: Taylor & Francis; New York : distributed in the U.S.A. by Crane, Russak, 1997).

³⁵ D. Shyam Babu, *Nuclear Non-Proliferation: Towards a Universal NPT Regime* (Konark Publishers Pvt, Limited, 1992).

³⁶ Tariq Rauf and Rebecca Johnson, 'After the NPT's indefinite extension: The Future of the global non-proliferation regime', *The Nonproliferation Review*, Vol.3, No.1 (Autumn 1995), pp.28–42.

³⁷ Heral Muller, et al., *Nuclear Non-Proliferation and Global Order* (Oxford: Oxford University Press, 1994).

³⁸ Shireen M Mazari, 'Pakistan, the NPT and the Non-Proliferation regime', *The Korean Journal of Defence Analysis*, Vol.XV, No.2 (Fall 2003).

Nizamani,³⁹ Solingen,⁴⁰ Olivia Bosch et al,⁴¹ Arbatov et al,⁴² Hymans⁴³ and Rogers.⁴⁴ Also scholars of the realist and neo-liberal schools have already published work on the spread of nuclear weapons and the role of international institutions. However, none of these studies directly addresses the case of Pakistan under the NPT incorporating the IAEA safeguards and export control regimes, exploring the themes suggested by regime theory. This study demonstrates that there is a dearth of material on the linkages and interaction between international institutions or regimes and Pakistan's nuclear behaviour. Furthermore, no study has been conducted so far which highlights the relevant views from the three schools of thought (realism, neo-liberalism and constructivism) in relation to the case of South Asia. The study also assesses the nuclear non-proliferation regime, especially the NPT, its strengths and failure to preserve non-proliferation norms and prevent nuclear proliferation. Pakistan's nuclear behaviour, evaluated within these parameters, provides an improved understanding of how the behaviour of non-NPT states can be changed through cooperation. As such this study improves our understanding of ways to address the behaviour of newly emerging nuclear states beyond the region, such as Iran and North Korea.

³⁹ Haider K. Nizamani, 'South Asian Nuclear Weapons and Dilemmas of International Non-Proliferation regime', *Contemporary Security Policy*, Vol.22 No.2 (August 2001).

⁴⁰ Etel Solingen, *Nuclear Logics: Contrasting Paths in East Asia and Middle East* (New Jersey: Princeton University Press, 2007).

⁴¹ Olivia Bosch and Peter van Ham (eds.) *Global Non-Proliferation and Counter-Terrorism: The Impact of UNSCR 1540* (London: Brookings Press, Chatham House, and Clingendael, 2007).

⁴² Alexi Arbatov and Vladimir Dvorkin, (eds.) *Nuclear Deterrence and Non-Proliferation* (Moscow: Carnegie Moscow Center, 2006).

⁴³ Jacques E. C. Hymans, *The Psychology of Nuclear Proliferation* (Cambridge: Cambridge University Press 2006).

⁴⁴ Paul Rogers, *Losing Control: Global Security in the 21st Century* (London: Pluto Press, 2010). Paul Rogers, 'Iran, America, Israel: the Nuclear gamble', *OpenDemocracy* (2 Oct 2009). <http://www.opendemocracy.net/article/iran-america-israel-the-nuclear-gamble>. Dr. Frank Barnaby, Professor Paul Rogers, Professor Jack Mendelsohn, 'Constructive Approaches to Limiting the Spread of Nuclear Weapons: Some Proposals for Government Action', *Oxford Research Group* (April 2004). <http://www.oxfordresearchgroup.org.uk/sites/default/files/nonproliferation.pdf>

Structure of the Thesis

This thesis comprises seven chapters. Chapter one introduces the research question and make explicit the epistemological premises and ontological foundation of regime theory and its relevant schools of thought – Realism; Neo-liberal Institutionalism and Constructivism. This chapter debates where these three schools stand on the degree to which regimes influence state behaviour through cooperation and also the limitations of the three schools of thought. An explanation of norms and their effect on state behaviour remains part of the theoretical endeavour. The chapter then debates the standing of the NPT as a regime and discusses the role of the IAEA and multilateral export control regimes incorporating the NPT in preventing the spread of nuclear weapons and promoting disarmament.

Chapter two evaluates Pakistan's experience in acquiring nuclear weapons, highlighting the complexities and dilemmas of a determined nation confronting an evolving non-proliferation regime. Pakistan initiated its decision to develop nuclear weapons in an environment in which the NPT presented a number of serious technological, economic, political and strategic constraints that might have served to limit Pakistan's options for acquiring nuclear weapons. However, by remaining clear of the NPT, Pakistan overcame technical challenges, implemented procurement strategies and completed its nuclear programme. This chapter concludes by considering the applicability of regime theory and the other schools of thought to the case of Pakistan. Rather than attempting to describe Pakistan's nuclear behaviour through one approach, this chapter tests each of the above competing theories and models in order most accurately to explain Pakistan's actual behaviour from the 1950s to the mid-1980s (by which time Pakistan had acquired its undeclared nuclear capability). Thus, this study

goes beyond existing literature involving regime theory to diagnose Pakistan's actual nuclear behaviour in the context of the global non-proliferation system.

Chapter three evaluates Pakistan's nuclear behaviour from 1978 to 1999. The study assesses three crises: Brasstacks (1987), the Kashmir conflict (1990) and later the Kargil 'war' (1999), to evaluate Pakistan's nuclear behaviour in crisis situations. Before the 1998 tests in South Asia there was no strategic transparency and the option to use nuclear weapons was covert. Each side knew that the other had separated warheads, which could be assembled and mated to aircraft with the intention of a nuclear strike. Discussion of these three crises poses an interesting puzzle: how do new nuclear weapons states deter aggression when they deny the deployment of their nuclear weapons and maintain a covert position regarding their nuclear modernization? Pakistan's nuclear behaviour and regional strategic situation is traced as the explanation for these covert nuclear developments. Both India and Pakistan carried out nuclear tests in 1998 representing steps in nuclear weaponization, depriving the NPT of universality and disregarding the set nuclear taboo. The chapter therefore assesses the compulsions for both India and Pakistan to go for weaponized deterrence or overt nuclearization. Regime theory and the three relevant schools of thought help us to understand the issue of proliferation in the semi-anarchic situation of South Asia.

Chapter four deals with Pakistan's vertical nuclear proliferation behaviour in the known cases of nuclear export by A. Q. Khan. The main question to emerge is whether it was the action of the state or one individual's behaviour which led to this notorious case of proliferation. Did the state concede an excessive freedom of action to Dr. Khan in the context of nuclear exportation? What were the motives behind his behaviour in breach of global non-proliferation norms and institutions? How were the recipient states assisted and what channels were involved? The role of international institutions in

constraining Khan and the behaviour of Pakistan in the context of nuclear exportation is analyzed in detail.

Chapter five discusses Pakistan's nuclear behaviour after disclosure of its vertical proliferation in the light of regime theory and norms. This chapter highlights the global efforts (multilateral, plurilateral⁴⁵ and unilateral) to strengthen the non-proliferation system after the disclosure of Khan's proliferation network. The chapter then analyses the effectiveness of global non-proliferation initiatives in relation to Pakistan's behaviour. More recent US concerns about Pakistan's nuclear status and the security of its nuclear weapons are also debated in this chapter, which also analyses the question of Pakistan's reliability in the ranks of the global community.

Chapter six identifies the emerging challenges to the non-proliferation regime and offers a solution designed to strengthen the international non-proliferation system. This chapter not only examines the challenges facing the NPT, multilateral export control regimes and international safeguards, highlighting the process by which such policies are made, but also appraises their impact on non-NPT states (particularly Pakistan) and the implications for the survival of international institutions in the global security arena. Finally, this chapter suggests how the international community might be able to strengthen its ability to reinforce the role of international institutions.

The concluding chapter takes up the theoretical and analytical issues raised by the preceding chapters, assesses the strengths and weaknesses of the theoretical model and outlines areas for future theoretical reflection and empirical research. More ambitiously, it addresses the question of how far regime theory is a relevant approach to international politics. What foundations does regime theory provide for a non-proliferation regime with which to make a security policy choice in an anarchic self-

⁴⁵Understood as an alliance of likeminded states in counter nuclear proliferation. For details see Nobuyasu Abe, 'Existing and Emerging Legal Approaches to Nuclear Counter-Proliferation in The Twenty-First Century', *International Law and Politics*, Vol.39 (2007).

help system? The chapter also reveals the conclusions regime theory draws from the case study of Pakistan and how effectively it might guide international institutions and policy-makers to change the behaviour of non-NPT states. These conclusions may help in changing the behaviour of states such as North Korea and Iran.

Methodology

This thesis proceeds along three interconnected tracks: (1) *Conceptual and Theoretical Innovation*: the theme taken from regime theory and guidelines from the three relevant schools of thought (Neo-realism, Neo-liberalism and Constructivism) help in testing the role of international institutions and regimes in regulating states' behaviour in non-proliferation discourse. (2) *Comparative Analysis*: To fully understand Pakistan's nuclear behaviour and the policy attachment to it, the Indian case must be considered. India's nuclear programme, which emerged as part of that country's search for global status and regional hegemonic designs on the one hand and security parameters on the other, changed Pakistan's behaviour towards global non-proliferation. Pakistan's nuclear programme cannot be dealt with separately from that of India. To regulate Pakistan's behaviour it is necessary to change India's behaviour. To change India's behaviour there is a need to change the behaviour of the Nuclear Weapons States (NWS) overall. This is why the study argues that it is only a change in the behaviour of states at the global level that can lead to a change in the behaviour of states at a regional level. A change in regional behaviour would lead to a change in Pakistan's behaviour internally. This aspect of the research employs a qualitative approach using discourse analysis of primary and secondary texts as central to its research methodology. This methodological approach draws on recent work on Pakistan's

nuclear developments and factors in foreign policy analysis as well as recent work done at an international level. It examines how politicians, diplomats and the military interact on the issue of using nuclear weapons in worse case scenarios and when the question of nuclear safety and security arises. (3) *Regime Analysis*: this examines the role of the NPT (including the IAEA safeguards and multilateral export control regimes) within the non-proliferation regime, its significance and institutional structure, states' non-observance of norms and influence on the NPT regime, the NPT review conference of 2010 and the need to reframe the structure of the NPT. These are all matters of importance which may help to change the nuclear behaviour of states.

This thesis uses a contemporary case study methodology. Interdisciplinary literature from political science, international relations, comparative politics and history provides insights for the case study method in qualitative research. Scholarly research has examined the significance of institutions and the role of regimes in a wide range of non-proliferation discourse. This dissertation extends the existing research from the domain of states' national security policies to that of global institutions examining the role of norms. The analysis relies on multiple sources of evidence to converge on the unit of analysis in a triangulating fashion (empirical data, conducting interviews from officials and academics in Pakistan and at international level and then drawing conclusions on the basis of evaluation).

The form of triangulation in this research project is investigative. The investigation includes examining academic and policy literature; archival records; government documents; and conducting interviews of senior officials and policy makers (for the full list of interviews see Appendix I). Obtaining accurate official data on Pakistan's nuclear build up and its proliferation case is problematic. Pakistan maintains a system of extreme secrecy over nuclear matters. A great deal of material has been

publicly released on the state's nuclear weapons development and proliferation but to date no sensitive data have been made available or declassified for scholarly investigation. Decisions are documented but analysis, debates and motivation cannot easily be adduced. Thus the predominant technique adopted has to be an exploratory one. The theoretically-informed framework developed in the literature review section outlines the pattern of state policy in the development and implementation of international normative discourse.

Another caveat concerns the global non-proliferation system and international institutions. This study questions the degree to which the global system appears weak in changing Pakistan's nuclear behaviour so that it acquired material from the global market and then allowed proliferation to states of concern. An examination of Pakistan's nuclear programme therefore ideally will provide a detailed description of the role of non-proliferation regimes (NPT, export control regimes and IAEA safeguards). This three-dimensional framework guides this study to address and further develop the research questions and provide a forward-based approach to enhance the role of international institutions in changing states' behaviour in order to reduce the risk of nuclear proliferation to as close to zero as possible.

The first practical problem this study has faced involves the security barriers at both a domestic and international level, which hinder the choice of interviewees and constrain the answers obtained. The second practical problem that such a study confronts is that documents depicting Pakistan's nuclear strategy are still classified. Nevertheless, there are sufficient non-classified sources that, when complemented with interviews of participants, we can obtain, for example, a representative picture of Pakistan's nuclear proliferation. However, having faced all the above problems and difficulties, visits to Pakistani ministries have been made, some of the documents have

been accessed, and important personnel involved in the proliferation case have been approached and interviewed. While conducting interviews, it was on the assumption that officials always represent a rosy picture of developments and stress that they have committed no wrongdoing. Therefore, the views of government officials and retired military officers have not been considered as necessarily accurate in their own right but the interviews have helped develop the analytical approach applied in this study. The reliability of sources is an important issue in the study of non-proliferation. Documents may be written with a hidden agenda in mind, so the credibility of the author is very important. Therefore, the researcher has to assess the sources and add the necessary caveats as well as (cautiously) fill in the gaps in the sources so as to gain a more complete picture.

Chapter One

Regime Theory and theories of IR and International Institutions

PART I

Regime Theory and theories of IR

Regime theory argues that **cooperation** is possible in the anarchic system of states and that **international regimes or institutions** affect states' **behaviour**. The theory focuses on '**cooperation**' (in the security realm) which must be embedded in **norms**. Before identifying linkages between regime theory, and other relevant theories (realism, neo-liberalism and constructivism) to address the case of Pakistan it is important to define **regimes** and **norms**, which are key concepts in this study.

Defining International Institutions or Regimes

This section debates the following questions:

- *What are institutions or regimes?*
- *What are institutional norms?*
- *Do institutions really compel states into cooperation and what accounts for the emergence of rules-based cooperation in an international system?*
- *How do international institutions and norms affect states' behaviour?*

It was John Gerard Ruggie who first introduced the concept of 'international regime' to international relations theory in 1975 by defining it as 'a set of mutual expectations, rules and regulations, plans, organisational energies and financial

commitments which have been accepted by a group of states'.¹ It can be argued that states are primary actors in regimes. Regimes do not arise of their own accord. Rittberger calls international regimes a 'form of institutionalised international collaboration distinct from governments, treaties, or international organisations'.² Haas maintains that regimes are a set of mutually coherent procedures, rules and norms.³ Krasner considers that 'institutions help to secure adherence to rules by formulating, communicating, administering, enforcing, interpreting, legitimising and adopting them'.⁴ In a broader sense, regime theory helps in identifying degrees of 'norms compliance and tracking changes therein'.⁵ Arthur A. Stein maintains that, as international institutions, regimes equalise the formal rules of behaviour by the character or constitutions of such institutions, and the study of regimes becomes the study of international organizations. He further argues that 'international regimes exist when patterned state behaviour results from joint rather than independent decision making'.⁶ Krasner goes even further, defining regimes as:

Sets of implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge in a given area of international relations. Principles are beliefs of fact, causation, and rectitude. Norms are standards of behaviour defined in terms of rights and obligations. Rules are specific prescriptions or proscriptions for action. Decision-making procedures are prevailing practices for making and implementing collective choice.⁷

¹ John Gerard Ruggie, 'International responses to Technology: Concepts and Trends,' *International Organization*, Vol.29, No.3 (Summer 1975), p.570.

² Volker Rittberger, 'Research on International Regimes in Germany', in Rittberger and Mayer (eds.), *Regime Theory and International Relations*, p.3.

³ Ernst Haas, 'Technological Self-Reliance for Latin America: The OAS Contribution,' *International Organization*, 4 (Autumn 1980), p.553.

⁴ Stephen D. Krasner, 'Structural Causes and Regime Consequences: Regimes as Intervening Variables', in Krasner (ed.), *International Regimes* (Ithaca, New York: Cornell University Press, 1983), p.186.

⁵ Van Kersbergen and Verbeek, 'The Politics of international Norms: Subsidies and the Imperfect Competence Regime of the European Union,' *European Journal of International Relations* Vol.13 (2007), p.219.

⁶ Arthur A Stein, 'Coordination and Collaboration', in Krasner, *International Regimes*, pp.116–17.

⁷ Krasner, 'Structural Causes and Regime Consequences', p.186.

Keohane and Nye define regimes as ‘sets of governing arrangements’ that include ‘networks of rules, norms, and procedures that regularize behaviour and control its effects’.⁸ A regime comprises two main elements: ‘first, its members abide by the agreed rules and norms. Second, it achieves its intended objectives. The most important feature of regimes is to enhance the ability of states to build cooperation in an issue and area.’⁹ Here Jervis defines regimes as ‘the assembly of principles, norms and rules that allow states to moderate their behaviour hoping that the other states would follow their example’.¹⁰

On this basis, we can see that regimes are characterised by their rules and principles, which are unbreakable and unchangeable by any individual state. However, the behaviour of states in following or breaking the rules that constitute a regime is what makes them succeed or fail. According to all the above definitions, a regime is a mode, a system, or a system of rules under a particular process. Regimes are related to power, interest, and agreements under which a system operates. Above all, regimes emerge as the result of a combination of states’ interests. Thus, the contention of this study is that regimes provide states with a motive to converge on common principles in an attempt to introduce a global normative framework for shared interest in maintaining stability in the world. Regimes preserve important variables in the study of cooperation through institution building under a dynamic, multi-dimensional and multi-level collaborative process.

⁸ Robert O. Keohane and Joseph S. Nye, *Power and Interdependence* (Boston: Little, Brown, 1977), p.19.

⁹ Andreas Hasenclever, Peter Mayer, and Volker Rittberger, ‘Interest, Power, Knowledge: The Study of International Regimes’, *Mershon International Studies Review* (1996), p.178.

¹⁰ Robert Jervis, ‘Security regimes’, *International Organisation* (Spring 1982), p.357.

Defining Security Regimes

Security cooperation has been in existence for a very long time and continues to exist in the international system. States' interests, interpretations and perceptions force them to build security cooperation. Such security cooperation can be understood as collaboration between potentially conflicting parties in the building of alliances or regimes.¹¹ Security regimes can be defined as systems, principles, norms, rules and procedures which are intended to regulate relations between states based on security-related issues. Glenn Chafetz argues that the 'regime evolved to serve the interests of a group of established liberal democracies that self-consciously identify their security interests collectively on the basis of shared core values and a history of cooperation'.¹² It can be argued that such mutual or group-based interests are nevertheless derived from self-interest, which leads towards cooperation. If multiple actors have mutual self-interest then these mutual interests can lead to the creation of norms and institutions such as non-proliferation and arms control regimes. Such institutions can help states change the perception of their self-interest in the security realm. If the mutual interests of the regime do not satisfy broadly the interests of all the individual actors then the institutions will be weakened and will fail.

Furthermore, security regimes may also have the role of managing global crises, resolving conflicts and mediating during wars between states. Arguably, security regimes are designed to manage and deal with all the security-related threats on the horizon. It can be argued that regimes are not easy to formulate in the security realm as compared to the economic or other sectors because of the 'inherently competitive cast

¹¹ Harald Muller, 'Security Cooperation', in Walter Carlsnaes, Thomas Risse and Beth A. Simmons (eds.), *Handbook of International Relations* (2002), p.370.

¹² Glenn Chafetz, 'The Political Psychology of Nuclear Non-proliferation Regime,' *Journal of Politics*, Vol.57, No.3 (August 1995), p.43.

of security in determining how much security the state has or needs'.¹³ Regimes differ in their commitments and goals. Security regimes also differ: some are focused on disarmament and others on non-proliferation. Some are more detailed in their elaboration and others less so. Some of them are legally binding; while the rest are entirely based on voluntary political commitment.

Defining International Norms

There is a long list of scholars who have defined norms from different philosophical, traditional and theoretical perspectives. Raymond identifies international norms as 'generalised standards of conduct that define the scope of a state's entitlement, the degree of its obligations, and the extent of its jurisdiction'.¹⁴ Norms are standards of behaviour which are defined in terms of rights and obligations which regulate intentions and effects.¹⁵ Norms are defined as 'a prescription or proscription of behaviour for a given identity'.¹⁶ Norms appear through social interaction which determines actions. There is need to differentiate between norms and institutions: 'the norm definition isolates single standards of behaviour, whereas institution emphasises the way in which behavioural rules are structured together and interrelated (a collection of practice and rules)'.¹⁷

Norms can also be interpreted as a practice of international law. Nina Tannenwald takes norms as a 'set of practices – of international law and diplomacy of the society of states, which defines what it means to be a "civilized" member of the

¹³ Roger K. Smith, 'Explaining the non-proliferation regime: anomalies for contemporary international relations theory,' p.254.

¹⁴ Gregory A. Raymond, 'Neutrality Norms and the Balance of Power', *Cooperation and Conflict*, Vol.32, No.2 (1997), p.128.

¹⁵ Robert Axelrod, 'An Evolutionary Approach to Norms,' *American Political Science Review*, Vol.80 (1986), pp.1095-1097. Janice E. Thomson, 'Norms in International Relations: A Conceptual Analysis', *International Journal of Group Tensions*, Vol.23 (1997), p.128.

¹⁶ Karsten J. Frey, 'Nuclear Weapons as Symbols: The Role of Norms in Nuclear Policy Making', *IBEI Working Paper* (October 2006), p.5. Emanuel Adler, 'Constructivism and International Relations', p.43.

¹⁷ Martha Finnemore and Kathryn Sikkink, 'International Norms Dynamics and Political Change', p.891.

international community'.¹⁸ Vayrynen argues that 'norms and institutions are responses to real and perceived needs of actors in an international environment'.¹⁹ Norms emerge to bring about cooperation in a context where mutual motives exist with multiple equilibria.²⁰ Tannenwald maintains that '[n]orms shape fundamental categories through which actors conceptualize the world'.²¹

It is also important to consider the term 'nuclear taboo'. A taboo is a particular type of norm. A taboo norm refers to a tradition rather than to simple norms. Taboo norms are related to the non-use of nuclear weapons and have been sustained since the destruction of Hiroshima and Nagasaki in 1945. Since then no state has used nuclear weapons. Tannenwald refers to a 'powerful de facto prohibition against the first use of nuclear weapons'.²² For Tannenwald, 'a taboo is not the behaviour (or non-use) itself but rather the normative belief about the behaviour'.²³ A taboo is a norm which regulates behaviour. A taboo is a prohibition; it refers to danger, and involves expectations of awful or uncertain consequences or sanctions if violated.²⁴ Taboo norms are perceived and classified as unbreakable norms which are perceived to be dangerous, unpractised and embedded with 'absoluteness and unthinkingness'. 'The strength of a taboo depends not on considered reflection, but on revulsion.'²⁵

This study develops the argument further and asks why it is that a taboo has not also been established against the proliferation and possession of nuclear weapons. The study identifies the existence of non-taboo norms, which are patterns of behaviour

¹⁸ Tannenwald, *The Nuclear Taboo*, p.4.

¹⁹ Raimo Vayrynen, 'Norms Compliance and Enforcement in Global Governance', in Raimo Vayrynen (ed.), *Globalization and Global Governance* (Oxford: Roman and Wittlefield, 1999), p.35.

²⁰ Stephen Haagard and Beth Simmons, 'Theories of International regimes,' *International Organisation*, Vol.41 (1987), pp.506-7.

²¹ Tannenwald, *The Nuclear Taboo*, pp.44-45.

²² Ibid., p.11.

²³ Ibid.

²⁴ Ibid.

²⁵ A. R. Radcliffe-Brown, *Taboo* (Cambridge: Cambridge University Press, 1939), p.26.

related to the possession of nuclear weapons (which have not been clearly identified yet as a nuclear taboo). Non-taboo norms are judged when they are broken and violated. This study further categorises non-taboo norms as *moral or legal* and *formal or informal*. Moral norms can be distinguished from social or legal norms. Moral norms can be defined as broad principles to be associated with an informal sanctions mechanism while legal norms require a formal sanctioning mechanism. Legal norms work on the basis of protocols and through institutions which regulate social behaviour. Legal norms are considered to have a greater effect on states' behaviour in the international context than moral norms.

A three Models Approach

Realism, Neo-liberalism and Constructivism – three approaches to institutions, norms and cooperation between states

This section examines the theoretical literature from the three schools of thought and creates linkages between these three approaches and regime theory. It further explores the differences between the schools in order to achieve a synthesis of their most effective elements for the analysis of the role of international regimes and norms in international relations.

Realism: Realism stands outside regime theory and critiques it. Classic realism focuses on human nature in a global system and states' domestic character whereas neo-realism emphasises the 'structural pressure',²⁶ that shapes the behaviour of states in the global system. Thus, neo-realism remains more relevant to this study. Within neo-realism there

²⁶ Hyde-Price, *European Security in the Twenty-first Century*, p.29.

are scholars who confront each other: for example, Waltz as a 'defensive realist' and John Mearsheimer as an 'offensive realist'.²⁷

Mearsheimer defines institutions as a set of 'rules that stipulate the ways in which states should cooperate and compete with each other'.²⁸ He considers that rules are typically formulated in international agreements which are embodied in organisations functioning by means of their own personnel and budgets.²⁹ This school of thought, however, disregards the impact of principles, international organizations and rules in the international system. Realists do not regard international institutions as forms of world government which compel states to obey rules; rather, states may choose to obey the rules they create which may be identified as norms. For realists, power, not institutions, is the central feature of global politics. In an anarchic system, for Hyde-Price, 'there is no ultimate sanction to ensure that laws are respected, norms upheld and institutions honoured'.³⁰ Hence, realist scholars have related the creation and persistence of regimes to hegemonic stability theory.³¹ On this assumption, the hegemon formulates regimes because it possesses the power, economic resources and technological advancement through which it can compel others to join and contribute to the maintenance of the regime.

Mearsheimer believes that states are actors in an anarchic world.³² Realist and neo-realist theorists argue that 'states (rational, unitary actors) were primarily concerned with their own survival in the international order (thus, security concerns dominated),

²⁷ Ibid.

²⁸ John J. Mearsheimer, 'The False Promise of International Institutions', *International Security*, Vol.19, No.3 (Winter 1994/95) later published in John J. Mearsheimer, 'The False Promise of International Institutions', in Michael E. Brown, Sean M. Lynn-Jones and Steven E. Miller (eds.), *The Perils of Anarchy: Contemporary Realism and International Security* (Cambridge: MIT Press, 1995), p.335.

²⁹ Ibid., p.336.

³⁰ Hyde-Price, *European Security in the Twenty-first Century*, p.4.

³¹ Stephen D. Krasner, *Structural Conflict: The Third World against Global Liberalism* (University of California Press, 1985).

³² John J. Mearsheimer, 'Realism, the Real World, and the Academy', p.26.
<http://mearsheimer.uchicago.edu/pdfs/A0029.pdf>

that the great powers dominated the system, and that anarchy – the absence of global sovereign authority – was the key ordering principle that structured states' behaviour'.³³ For realists, anarchy prevails owing to the absence of an overarching authority in the international system. They suggest that 'international anarchy forces states to survive via *self-help*'.³⁴ Waltz maintains that, in the nuclear era, international politics remains a self-help arena in which nuclear weapons neither introduce any change nor alter the anarchic nature of world politics.³⁵ They believe that, in an anarchic system, states prefer to deal with their adversaries by building up their arsenals of weapons and gaining allies instead of building cooperation towards a greater degree of arms control based on common interests.

More than a decade ago, realist theorists debated different viewpoints on international institutions and their efficacy to sustain '**cooperation among states**'. Mearsheimer first produced a robust assault on liberal institutional theory in his 'The False Promise of International Institutions'.³⁶ In this he strongly criticised the role of international institutions and highlighted their ineffectiveness in sustaining cooperation among states to regulate their behaviour. He regarded liberal institutional theories as a flawed approach and institutional promises as false promises in promoting peace and stability.

Therefore, powerful actors will exert what pressure they have in the effort to devise constitutional contracts or legislative bargains favouring their interest.³⁷ This factor has not been vehemently denied by liberals such as Keohane, who admits that

³³ Kate O'Neill, Jorg Balsiger and Stacy D. VanDeveer, 'Actors, Norms and Impact', *Annual Review of Political Science* (May 2004), p.153.

³⁴ Solingen, *Nuclear Logics*, p.24.

³⁵ Kenneth N. Waltz, 'Structural Realism after the Cold War,' *International Security*, Vol.25, No.1 (Summer 2000), p.5.

³⁶ Mearsheimer, 'The False Promise of International Institutions', p.335.

³⁷ Andreas Hasenclever, Peter Mayer and Rittberger, *Theories of International Relations* (Cambridge University Press, 1997) p.86.

hegemony plays a role in the formation of international regimes.³⁸ However, the theory of hegemonic stability does not deny the ability of states to cooperate. The realist view of the world is one of a competitive environment. Realists do not claim that states never cooperate or do not utilize institutions in order to achieve cooperation, but they assume that such cooperation is not easy to achieve and difficult to sustain. They identify two important problems responsible for making cooperation difficult: the problem of *relative gains* and the problem of *cheating*.

Thus, realists believe that power struggles in the security realm may bring states towards cooperation but that it will not change the basic underlying structure of interaction. In an anarchic world, states remain uncertain of the intentions of rival states. States possess the ability to damage their rivals. Survival is their utmost priority when states act rationally and think strategically. For Hyde-Price, '[t]he security competition can never be eliminated as fear is pervasive and trust a scarce commodity in an anarchic system'.³⁹ Therefore states aim to maximize their relative power position in the system.

For realists, morality and norms have no place in international politics. Neo-realists maintain that 'leaders of states behave in a highly rational manner in an anarchic international system where states cannot afford to be moral'.⁴⁰ This study will prove how accurate these assumptions are in the case of Pakistan.

On institutions having an effect on states' behaviour, realism focuses on the limited effects of international institutions in constraining the behaviour of states. The realist Krasner develops the idea further, contending that 'the international system has

³⁸ Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Politics Economy* (Princeton NJ: Princeton University Press, 1984).

³⁹ Hyde-Price, *European Security in the Twenty-first Century*, pp.29-33.

⁴⁰ Kenneth N. Waltz, 'The Origin of War in Neorealist Theory', in Robert I. Rotberg and K. Rabb, (eds.), *The Origin and Prevention of Major Wars* (New York: Cambridge University Press, 1988), pp. 39–52. Robert J. Art and Kenneth N. Waltz, 'Technology, Strategy and the Uses of Force', in Art and Waltz (eds.), *The Use of Force* (University Press of America, 1983), pp.6–7.

been characterised by competing or contradictory norms, not a single set of rules'.⁴¹ David Sloss argues that in realism institutions have no role to stop states' behaviour in maximising their power but they believe that 'domestic political forces are the dominant factor in shaping foreign policy decisions'.⁴² He further argues that 'institutions do not have significant independent effects on states' behaviour'.⁴³ In his review of *The Limits of International Law*,⁴⁴ Sloss contends that the authors of the book are 'openly hostile to international norms theories' and he believes that 'one of the authors' main goals is to persuade readers that international norms do not influence state behaviour'.⁴⁵ For Sloss, 'they fail to accomplish that goal'.⁴⁶ This study will prove to what extent non-proliferation regime and international institution had an effect on Pakistan's nuclear behaviour.

Neo-liberalism: Neo-liberals criticise the realist version of international relations. For example, in response to Mearsheimer's argument, the neo-liberals Robert Keohane and Lisa Martin published 'The Promise of Institutional Theory',⁴⁷ in which they strongly criticised Mearsheimer's work. Neo-liberal institutionalists assert that institutions mean a lot in the world of politics and that they matter in the area of state cooperation and behaviour.

Scholars such as Keohane and Nye Jr. maintain that neo-realists neglect the importance of domestic politics and the nature of regimes.⁴⁸ In reply to realists' understanding of international institutions based on power, self-interest and cheating,

⁴¹ Stephen D. Krasner, *Sovereignty: Organized Hypocrisy* (Princeton NJ: Princeton University Press, 1999), pp.6, 54.

⁴² David Sloss, 'Do International Norms Influence States' Behaviour?', *George Washington International Law Review* (2006), p.1.

⁴³ Mearsheimer, "A Realist Reply", *International Security*, Vol. 20, No. 1 (Summer, 1995), p.82.

⁴⁴ Jack L. Goldsmith and Eric A. Posner, *The Limits of International Law* (New York: Oxford University Press, 2005).

⁴⁵ Sloss, 'Do International Norms Influence States' Behaviour?', p.1.

⁴⁶ Ibid.

⁴⁷ Robert O. Keohane and Lisa L. Martin, 'The promise of Institutional Theory', *International Security*, Vol.20, No.1. (Summer, 1995), p.42.

⁴⁸ Robert O. Keohane and Joseph Nye Jr., *Power and Interdependence* (1989), pp.23–38.

which limit cooperation, liberal institutionalists such as Keohane and Lisa Martin regard institutions as ‘rooted in the realities of power and interest which make a significant difference in conjunction with power realities’.⁴⁹ For neo-liberalism or neo-liberal institutionalism, anarchy is the structure of the international system but cooperation is still possible through international regimes and international institutions. States will enter into co-operative relations even if one state gains more than another from the interaction. Liberals believe that the international system and peace and stability are not dependent on the balance of power between states but on international law and institutions. For them, new patterns of global politics are based on multilateral institutions. With regard to the realist arguments on cheating and relative gains, both Keohane and Martin reply that the focus of liberals is not on cheating exclusively but that distributional issues do matter. They also refuse to allow the issue of relative gains to play any role in their argument and argue that institutional theory will ‘invade the study of security issues, helping to explain variation in institutional form without denying the validity of many realist insights into power and interest’.⁵⁰ Keohane and Martin maintain that just as institutions ‘mitigate fear of cheating and so allow cooperation to emerge, so can they alleviate fears of unequal gains from cooperation’.⁵¹ Furthermore, they claim that ‘institutions settle distributional conflicts, assuring that gains are equally distributed’.⁵²

For neo-liberals, institutions are an important factor in global stability. Nuruzzaman comments that liberal theorists believe that ‘institutions are a powerful force for stability and order in a world free of Cold War’⁵³ and that they consider that

⁴⁹ Keohane and Martin, ‘The promise of Institutional Theory’, p.42.

⁵⁰ Ibid., pp.43–44.

⁵¹ Ibid., p.45.

⁵² Ibid., pp.42–43.

⁵³ Mohammed Nuruzzaman, ‘Liberal Institutionalism and Cooperation in the Post 9/11 World’, Published by the *Canadian Political Science Association (CPSA)*, pp.1–2.

the next decade will be characterised by ‘a continuous pattern of institutionalised cooperation’.⁵⁴ For neo-liberals, institutions are pivotal in playing a mediating role and acting as the principal means to achieve and maintain cooperation between states. Kohane argues that ‘cooperation is not always benevolent, but we will lose without cooperation; we hardly cooperate without regimes’.⁵⁵ Solingen demonstrates from the work of Keohane and Lipson that states pursue their interests through institutions, limit problems collectively, reduce uncertainties, and spread information about preferences and behaviour through cooperation.⁵⁶ Indeed, the existence of institutions brings states into cooperation to stabilize the international system and secure their mutual interests. Regime theory and neo-liberal institutionalism claim that ‘states are interested in maximising their own absolute, rather than relative, gains’,⁵⁷ a situation from which all participating states will gain mutual benefit. In the neo-liberal understanding, states prefer cooperation in pursuit of absolute gains which will be sustained on a long-term basis. Under these assumptions, international developments suggest that states have more to gain by joining institutions and pay higher costs when they prefer to survive unilaterally outside them.

Solingen demonstrates the neo-liberals’ perspective that regimes were created to solve the ‘Prisoner’s Dilemma’, in which states have a common interest in cooperation.⁵⁸ The ‘Prisoner’s Dilemma’ arises ‘when two states, each pursu[ing] its own interests, would achieve an outcome that makes both of them worse off. In contrast, if the states cooperate, they can achieve an outcome that benefits both’.⁵⁹ Neo-liberal institutionalism provides strong arguments in favour of cooperation in which

⁵⁴ Ibid.

⁵⁵ Robert Keohane, *International Institutions and State Power. Essays in International Relations Theory* (Boulder, Co: Westview Press, 1989) p.234.

⁵⁶ Solingen, *Nuclear Logics*, p.28.

⁵⁷ Kate O’Neill, et al., ‘Actors, Norms and Impact’, p.53.

⁵⁸ Solingen, *Nuclear Logics*.

⁵⁹ Sloss, ‘Do International Norms Influence States’ Behaviour?’, p.3.

anarchy is reduced through an authoritative institutional approach, trust is achieved among states, and gains are absolute and mutual for all parties. Beth Simmons and Lisa Martin maintain that 'institutions provide states with an environment where they behave in a more cooperative manner than they otherwise might have'.⁶⁰ Martin argues that in the economic realm 'cooperation increases due to institutional sanctions in an internationalised environment'.⁶¹

The neo-liberal approach on institutions can be summed up in this section by two representative examples: first, contractualism, which studies international regimes on the basis of actors' ability to cooperate; second, situational structuralism, which studies the situation in which actors might build cooperation through regimes.⁶² Furthermore, neoliberal arguments have support from three other theories. Functionalist theory (1940s–1950s), which developed in specialised agencies such as the international labour organization, believes that cooperation can be promoted since such agencies perform valuable tasks without undermining and disregarding states' sovereignty.⁶³ Neo-functionalist regional integration theory (1950s–1960s) assumes that bodies such as the European Economic Community – the predecessor of the European Union – do not feel comfortable in their narrow realm. Interdependence theory (1970s), which looks at institutions in a world of multiple issues, considers that demand for such institutions has increased.⁶⁴ These three theories rejected realism's understanding of world politics by arguing that international institutions are helpful in achieving cooperation between

⁶⁰Beth A. Simmons and Lisa L. Martin, 'International Organisations and Institutions', in Walter Carlsnaes, Thomas Risse and Beth A. Simmons, *Handbook of International Relations* (Sage Publications: 2002), p.199.

⁶¹ Lisa L. Martin, 'Institutions and Cooperation: Sanctions during the Falkland Islands Conflict', *International Security*, Vol.16, No.4 (1992), pp.143–77.

⁶²Andreas Hasenclever, Peter Mayer, and Volker Rittberger, 'Interest, Power, Knowledge: The Study of International Regimes', *Mershon International Studies Review*, Vol.40, No.2 (Oct. 1996), p.183.

⁶³Joseph M. Grieco, 'Anarchy and the Limits of Cooperation: A Realist Critique of the Newest Liberal Institutionalism', p.490.

⁶⁴ Ibid.

states.⁶⁵ These assumptions are important to address the case of Pakistan, if institutions are so important then why did Pakistan prefer to remain outside institutional cooperation and build its own nuclear weapons arsenal?

In the context of norms, neo-liberal regime theory considers norms as an important element in the international system. Neo-liberalism assumes that norms are a superstructure which serve a regulative function and maximise the actor's utilities.⁶⁶ Regime theory reveals that 'norms constrain state behaviour ... norms are an explanatory variable that intervenes between underlying power distributions and outcomes'.⁶⁷ In neo-liberalism norms emerge as a solution to problems posed by game situations.⁶⁸ When states cooperate, norms emerge which subsequently regulate states' behaviour in the long run. In regard to norms having an effect on states' behaviour, neo-liberals seek to explain state behaviour in term of state interests both in power and wealth.⁶⁹ This will help us to understand how far norms have had an effect on Pakistan's behaviour.

Constructivism: Constructivism does not refer primarily to a theory which may be compared to other established theoretical schools in international relations such as realism or neo-liberalism. Nevertheless, it possesses implications for international theory. It can be argued that constructivism is a reaction against the narrow or individualist approach of international politics. Therefore, this approach opposes the realist theories of international relations. It is concerned with the relationship between the social construction of meaning and the construction of social reality. It can be argued that this is a 'behaviouralist theory of action, since it is studying the behaviour of

⁶⁵ Ibid., p.486.

⁶⁶ Jeffrey T. Checkel, 'The Constructivist Turn in International Relations Theory,' *World Politics*, Vol. 50, No.2 (1998).

⁶⁷ Annika Bjorkdahl, 'Norms in International Relations: Some Conceptual and Methodological Reflections,' *Cambridge Review of International Affairs*, Vol.15, No.1 (2002), p.11.

⁶⁸ Edna Ullman-Margalit, *The Emergence of Norms* (Oxford: 1977).

⁶⁹ Sloss, 'Do international norms influence states' behaviour?', p.1.

individuals that allows and helps us to understand their beliefs (by making assumptions about their desires) or their desires (by making assumptions about their beliefs)'.⁷⁰ The realists and neoliberals' theories do not advocate the influence of ideas, values and norms in the identities and actors' interests whereas, on the contrary, constructivism provides an understanding regarding the influence of norms. This study draws premises from the constructivist approach to examine the case of Pakistan because it emphasizes the significance of institutions and norms for our understanding.

Constructivists reject the realist approach, which assumes that actors calculate costs and benefits in seeking to maximize their interests. On the contrary, constructivist approaches stress the way in which institutions and shared beliefs can shape actors' conceptualization of their interests. Constructivists argue against the two theories previously discussed because they fail to address the fundamental question as to how state interests emerge.⁷¹ For commentators like Mihai Zodian 'interests are defined in terms of players' identities and the ideas prevailing at the international level'.⁷²

The constructivist approach is that '[r]egimes construct identities by delineating what are socially acceptable norms and interests. At the same time, regimes are in the process of continual self-interpretation and self-definition in response to change.'⁷³ Ruggie understands 'institutions as a refined set of inter-subjective regulative rules, which coordinate and pattern behaviour and channel it to one direction, and shape collective identities as well as shared interest and practices'.⁷⁴ Solingen believes that 'constructivism studies institutions and norms as socialization processes in which a

⁷⁰ Larry Hauser, 'Behaviorism', *The Internet Encyclopedia of Philosophy*, <http://www.iep.utm.edu/behavior/>

⁷¹ Mihai Zodian, 'The Absolute weapon and International Order in 21st Century,' *CSIS occasional Paper* No.5 (2007), p.6.

⁷² Ibid., p.7.

⁷³ Eric Brahm, 'International Regimes'.

⁷⁴ John Ruggie, *Constructing the World Polity: Essays on international institutionalization* (London: Routledge, 1998), p.54.

“logic of appropriateness”, not interests or rational expectations, determines institutional purpose and shapes compliance’.⁷⁵

This approach emphasises that actors, even powerful ones, need to work through institutions, defined broadly as norm-guided social arrangements, since the rules and norms which constitute institutions are the medium that makes communication and coordinated action possible. Institutions are thus a starting point and are not just consciously built by self-interested actors.

For constructivists, the effects of norms reach deeper: they constitute actors’ identities and interests and do not simply regulate behaviour.⁷⁶ Bjorkdahl draws on Klotz’s work and elaborates upon three transmission tools which link norms to policy choice: ‘community and identity; reputation and communication; and discourse and institutions.’⁷⁷ Constructivists do not regard ‘norms simply as an ethical alternative to constraint on self-interest but for them, norms provide a theoretical explanation of interest (re)-formation’.⁷⁸ For Sagan, neo-cultural scholars argue that ‘there is a growing moral norm against developing chemical, biological and nuclear weapons and that an international taboo against the use of weapons of mass destruction has had a strong impact on states’ leaders’ decisions in crisis and war’.⁷⁹ Therefore, Bjorkdahl comments, constructivists’ interests cannot be identified in isolation from ideas and norms.⁸⁰ Thus ideas and norms constitute interests.

The normative approach of constructivists based on identity, ideas and interests cannot be ignored in the present international system. Norms indeed are values, shared by groups or actors within a particular consensus or collectivity. They involve

⁷⁵ Solingen, *Nuclear Logics*, p.32.

⁷⁶ Jeffrey T. Checkel, ‘The Constructivist Turn in International Relations Theory’, p.328.

⁷⁷ Bjorkdahl, ‘Norms in International Relations:’, p.12.

⁷⁸ Audie Klotz, ‘Norms Reconstituting Interests: Global Racial Equality and US Sanctions against South Africa’, *International Organisation*, Vol.49, No.3 (1995), p.460.

⁷⁹ Sagan, ‘Realist Perspective on Ethical Norms,’ pp.74–75.

⁸⁰ Bjorkdahl, ‘Norms in International Relations:’, p.20.

agreement about what should and should not be done. ‘Collectivity’ in this context implies that all the actors within a particular community and common identity cooperate with each other for mutual gains without risking their interests. If interests are not risked, norms will not be violated. However, if norms lack universality within a given community, they are likely to be violated by individual actors pursuing their own interests.

The theoretical debate discussed above was developed to understand the logic of international institutions and norms. The literature indicates that institutions encourage and influence states to cooperate in an environment in which they otherwise might not do so. The questions arise as to what effect regimes and norms had on Pakistan’s nuclear behaviour and how far institutional cooperation played a role in regulating Pakistan’s nuclear behaviour: these questions are addressed throughout this study.

Part II

The International non-proliferation order: the NPT and relevance of Regime Theory

The catastrophic atomic events in Hiroshima and Nagasaki on 6 and 9 August 1945 left the entire world recoiling with fear and horror. Lewis Stimson, the former US secretary of war rightly commented that ‘the atomic bomb was more than a weapon of terrible destruction; it was a psychological weapon’.⁸¹ This horrific psychological impact generated a nuclear taboo which remains in practice to the present. This nuclear taboo against use of nuclear weapons – due to its horrific threat to humanity – has

⁸¹ See ‘Least Abhorrent Choice’, *TIME Magazine* (3 February 1947).

strengthened over time. Yet there was also a trend towards the possession and proliferation of nuclear weapons after 1945 which is referred to as ‘non-taboo norms’ in this study. Despite that, the Soviets tested their first nuclear weapon in August 1949.

The first **institutional** effort to strengthen norms against proliferation took place when the International Atomic Energy Agency (IAEA) was approved in 1954 and became operational in 1957. This was a successful effort to create a system of safeguards: non-nuclear weapons states agreed to report to the IAEA with their civilian activities and also to keep their facilities open for inspection by the IAEA inspectors to ensure that there was no diversion of material from civilian to military purposes.⁸² The continued Soviet development of advanced nuclear technology and the acquisition of nuclear weapons by Britain (1957) and France (1960) jolted the world. After 1960, when the non-aligned states attained a majority in the UN General Assembly, a resolution (resolution 1653 – a declaration of the prohibition of the use of nuclear and thermo-nuclear weapons)⁸³ was passed on 24 November 1961 calling for a ban on nuclear weapons and regarding their use as ‘contrary to the laws of humanity and as committing a crime against mankind and civilization’.⁸⁴ This law formalized the nuclear taboo against the use of nuclear weapons which exists to the present. Tannenwald rightly suggested, as discussed in part I of this study that the ‘fear’, ‘lethality’ and ‘destruction’ which nuclear weapons bring have strengthened the taboo against the use of these weapons. Nevertheless, the UN failed to initiate a comparable taboo against the proliferation of these weapons because of powerful states’ interests and relative gains as highlighted by realists. China exploded its nuclear device and joined the nuclear club on

⁸² Lavoy, ‘Enduring Effects of Atoms for Peace’, *Arms Control Today* (December 2003).

http://www.armscontrol.org/act/2003_12/Lavoy

⁸³ General Assembly, Sixteenth Session, 1063rd Plenary meeting, 24 November 1961.

⁸⁴ Tannenwald, ‘The Nuclear Taboo and the Nuclear Non-proliferation Regime’, Prepared Remarks to the 2005 Carnegie Endowment Non-proliferation Conference, 7 November 2005.

http://www.carnegieendowment.org/static/npp/2005conference/presentations/tannenwald_remarks.pdf

16 October 1964. This was the time when states' security interests ruled the world in the accordance with the realist assumption of the maximization of power. Taboo norms did have some effect on states' behaviour but norms against the possession of nuclear weapons failed as yet to have any real impact.

The NPT regime - an institutional approach towards nuclear proliferation

In 1961 the United Nations' General Assembly took an important initiative to constrain the spread of nuclear weapons and restrain states from the transfer or acquisition of nuclear technology. This effort was known as the Irish Resolution because Ireland played a leading role within the UN in urging that the acquisition of nuclear weapons by additional states posed a great danger.⁸⁵ Additionally, in the early 1960s, the proliferation of nuclear weapons, both vertically and horizontally, continued and experts were concerned that 'within a decade or two a dozen additional countries were likely to cross the nuclear threshold'.⁸⁶ Indeed, after President Kennedy's prediction in 1963 that '15 to 25 states would obtain nuclear weapons by 1975',⁸⁷ distinct channels of communication were opened between the US and the Soviet Union, the Eighteen Nations' Disarmament Committee (ENDC) and the US with its NATO allies. These negotiations brought the two superpowers, the US and Soviet Union, together to draft a non-proliferation treaty regime, to prohibit further nuclear weapons proliferation. However, the UN General Assembly adopted **Resolution 2028** in 1965. The NPT was a medium-term consequence of the adoption of **resolution 2028**.

⁸⁵ Pakistan as a NNWS fully supported this resolution on moral grounds: Rizwana Abbasi, 'Establishing the New Nuclear Taboo: Pakistan's Nuclear Behaviour after the Revelation of the A. Q. Khan Case', Paper presented at the 51st Annual meeting of Institute of Nuclear Materials Management, USA (11-15 July 2010).

⁸⁶ Olav Njølstad, 'The Development and Proliferation of Nuclear Weapons', published by the *Norwegian Nobel Institute*. http://nobelprize.org/educational_games/peace/nuclear_weapons/readmore.html

⁸⁷ Michael Lipson, 'Organised Hypocrisy and the NPT,' p.14. Orde F. Kittrie, 'Averting Catastrophe: Why the Nuclear Non-proliferation Treaty is losing its deterrence capacity and how to restore it', *Michigan Journal of International Law*, Vol.28 (2007), p.339.

The most understudied measure of the regime, the NPT, was introduced in 1968, and came into force in 1970, with a range of obligations for Nuclear Weapons States (NWS) and Non-nuclear Weapons States (NNWS). It was established under the belief that the proliferation of nuclear weapons would enhance the risks of a nuclear war. Thus, the treaty required the NNWS not to acquire, manufacture or seek assistance in the manufacturing of nuclear weapons or explosive devices,⁸⁸ while the NWS were to disarm and subsequently eliminate nuclear weapons. This has proved to be a durable and enduring effort to prevent the proliferation of nuclear weapons. This effort developed cooperation among states and legally enforceable rules and initiated anti-nuclear norms which remain in practice though they are violated at different times by different states as is demonstrated in later parts of this study.

Article I: The article commits:

Each nuclear-weapons State Party to the Treaty undertakes not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly; and not in any way to assist, encourage, or induce any non-nuclear-weapon State to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices, or control over such weapons or explosive device.⁸⁹ **(Pillar I).**

Article II: Addresses non-nuclear weapons states, Party to the Treaty, which undertake not to manufacture or otherwise acquire nuclear weapons or seek any assistance directly or indirectly from any transfer or to develop nuclear weapons.

Article III: Enforces the requirement of all NNWS to accept safeguards and to conclude an agreement with the IAEA for this purpose. It further addresses each state Party to the treaty to undertake not to provide any source or material which is used for

⁸⁸ S. Paul Kapur, *Dangerous Deterrent* (2007), p.3.

⁸⁹ The NPT articles can be found at the United Nations Web site:
<http://www.un.org/events/npt2005/npttreaty.html>

processing or production of special fissionable material to any non-nuclear state for peaceful purposes.⁹⁰

Article IV: This crucial Article requires that (1) Nothing in this Treaty shall be interpreted as affecting ‘the inalienable right of all the Parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes’⁹¹ without discrimination and in conformity with Article I and II of this treaty. (2) It also requires all the parties to the Treaty to undertake to facilitate and possess the right in ‘the fullest possible exchange of equipment, material and scientific and technological information for the peaceful uses of nuclear energy’.⁹² The parties that are in a position to do so shall also cooperate in contributing alone or together with other states or international organizations ‘to the further development of the applications of nuclear energy for peaceful purposes, especially in the territories of non-nuclear weapons states Party to the Treaty’⁹³ with due consideration of the developing areas of the world (**Pillar II**).

Article V: the article requires that each party adopt appropriate measures in accordance with the NPT and under appropriate international observation so that any peaceful applications of nuclear explosions will be made available to NNWS on a non-discriminatory basis and that the charge to such Parties for the explosive devices used will be as low as possible and exclude any charge for research and development.

Article VI: All of the parties to the Treaty undertake to pursue negotiations in good faith on effective measures relating to ‘cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control’⁹⁴ (**Pillar III**).

⁹⁰ Ibid.

⁹¹ Ibid.

⁹² Ibid.

⁹³ Ibid.

⁹⁴ Ibid.

Article VII: provides states with the right to conclude treaties on a regional basis to prevent the promotion of nuclear weapons in their territories.

Article VIII: gives privilege of amendment that any amendment to this Treaty must be approved by a majority of the votes of all the parties to the Treaty and all other parties which are members of the Board of Governors of the IAEA. The states parties to the treaty may propose amendments in the treaty, including the votes of all NWS Party to the Treaty and all other Parties which, on the date the amendment is circulated, are members of the Board of Governors of the International Atomic Energy Agency. It further explains the mechanism for the adoption of amendments. Under this article the treaty will be reviewed at intervals of five years after the entry into force of this treaty.

Article IX: includes the definition of the NWS: ‘a nuclear-weapon[s] State is one which has manufactured and exploded a nuclear weapon or other nuclear explosive device prior to 1 January 1967.’⁹⁵

Article X: defines the withdrawal option from the treaty – that each party has the right to withdraw by giving notice to all parties to the treaty and to the UNSC three months in advance.

Hence, the NPT represented the foundation for an international regime to prevent the spread of nuclear weapons around the world. The powerful states formulated this regime to change states’ interests and behaviour in the field of nuclear weapons. The main objective remained to stop the spread of nuclear weapons technology to non-nuclear weapons states. It remained to build *co-operation* among all states for the attainment of the objectives mentioned in the Articles. Furthermore, the treaty sought to encourage confidence-building measures between states parties to establish a safeguards system under the responsibility of the IAEA. The Treaty was

⁹⁵ Ibid.

designed to promote co-operation in the field of peaceful nuclear technology and equal access to this technology for all state parties, while safeguards prevented the diversion of fissile material for weapons use. Furthermore, the treaty aimed to ease international tension and strengthen trust between States in order to facilitate the cessation of the manufacture of nuclear weapons, the liquidation of existing stockpiles, and the elimination from national arsenals of nuclear weapons and the means of their delivery pursuant to a treaty on general and complete disarmament under strict and effective international control. Additionally, the treaty sought to recall that, in accordance with the Charter of the UN, States must refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any other state, or to act in any other manner inconsistent with the purposes of the UN, and that the establishment and maintenance of international peace and security were to be promoted with the least diversion of the world's human and economic resources for armaments. Finally, the provisions of the Treaty, particularly article VIII, paragraph 3, envisaged a review of the operation of the Treaty every five years.⁹⁶ Here the important question arises as to why the NPT failed in strengthening norms to achieve commitments under the three bargaining pillars described above. Answers to this question are sought throughout this study.

Evaluating the NPT: incorporating the international safeguards system and the export control regimes

Like the NPT, safeguards and export controls work largely as separate activities promoting the role of the NPT: first, verifying the correctness and completeness of nuclear-related materials and activities and second, having control on the technology

⁹⁶ Conferences to review the operation of the Treaty have been held at five-year intervals since it came into effect (1970).

inputs. Export controls limit access to the capabilities that could be used to produce nuclear missile technology or bombs. Safeguards help in verifying declarations made by states and in detecting or deterring the diversion or undeclared production of nuclear materials etc.

IAEA Incorporating the NPT: The IAEA came into being to promote the peaceful use of nuclear energy ensuring that ‘assistance provided by it or at its request, or under its supervision or control is not used in such a way as to further any military purpose’ under the IAEA Statute, Article II. Article III.A.5 authorises the IAEA ‘to establish and administer safeguards’ and make international safeguards mandatory for NNWS party to the NPT treaty. Article XII sets out the rights and responsibilities of the IAEA in such situations including the right to examine the design of the specialised equipment, facilities and nuclear reactors. This includes the power to send the inspectors into recipient states regarding any IAEA project or other arrangements where the Agency is requested by the Parties to apply safeguards.

A system of international safeguards was established by the IAEA in 1957, and was confirmed in 1965 as INFCIRC/Rev.2. This document, however, was not mandatory. It can be used only when supplier states demand it and recipient states agree to accept safeguards.⁹⁷ After its entry into force in 1970, the NPT assigned to the IAEA the responsibility for verifying its safeguards system at the global level. It was thereby intended to ensure that NNWS fulfil their obligations not to use their peaceful nuclear activities for nuclear weapons purposes. It is important to note that the IAEA is neither a secretariat of the NPT nor does it possess any power to request states to adhere to the NPT. Nevertheless, the IAEA has a formal responsibility to implement Article III of the

⁹⁷ To date the IAEA applies safeguards under further appropriate agreements in over 150 states; however some states have unsafeguarded facilities including facilities for military purposes developed indigenously or through the help of other states such as India, Pakistan, Israel and the DPRK.

NPT. The IAEA's credibility, reputation and experience also facilitate the implementation of other Articles of the NPT.

The IAEA provides two service functions under the NPT. The first function opens a channel for endeavours aimed in accordance with Article IV.2 of the treaty that aims at 'the further development of the applications of nuclear energy for peaceful purposes, especially in the territories of non-nuclear-weapon[s] States Party to the Treaty, with due consideration for the needs of the developing areas of the world'. The second function deals with international nuclear safeguards, in accordance with Article III of the treaty, which seeks to prevent the 'diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices'. Under this clause, the IAEA verifies the fulfilment of the non-proliferation commitment assumed by non-nuclear-weapons states party to the Treaty. The IAEA furthers other non-proliferation objectives, applying its safeguards to nuclear fuels and plants which states acquire from abroad.

The IAEA has the right to verify a state's compliance without hampering its economic and technological developments. When the IAEA faces difficulties, it reports these cases to the Security Council which then decides what action needs to be taken. The NPT safeguards represent an institutionalized mechanism for nuclear transparency under which the IAEA assures the world community that a state's nuclear activities are under its watch and are intended for entirely peaceful purposes. This type of assurance enhances state security and confidence at the global level. It may be argued that safeguards are a technical mechanism for achieving a political end.

NNWS party to the NPT accept technical safeguards measures under the IAEA. Five NWS and certain non-NPT nuclear weapons states (including India, Israel and Pakistan) have facility-specific safeguards which apply to particular plants. These

specific facilities are regularly visited by the IAEA to verify the completeness and accuracy of the record. The IAEA further improved its safeguards system through the Additional Protocol (AP) in 1997 which gave the agency more power.⁹⁸

It is important to note that only 101 out of 180 party states to the NPT have brought the AP into force as of 27 May 2010.⁹⁹ The countries that have not ratified the protocol yet include Iran and Mexico. Argentina, Brazil, Egypt, Syria, Israel, India, Pakistan, North Korea and many more have yet to sign the protocol. Thus, these developments of the IAEA strengthen the legal status of the NPT and further its role to promote nuclear non-proliferation. The IAEA plays an important role in shaping states' behaviour to ensure that they do not divert their facilities from commercial purposes to military means. But as yet the IAEA is far from being in the position to ensure full compliance from all states. For example, states which are not party to the NPT are not required to keep their facilities under IAEA safeguards if they do not wish to do so. This creates a problem for the IAEA as it cannot use its full powers on non-NPT states.

Export Controls: Informal institutions have been established to further strengthen NPT norms, ease coordination among members, and reinforce the ties related to non-proliferation among the members. The basis of export control regimes remains the NPT. On the basis of the NPT, export controls require IAEA verification in the recipient country. Furthermore, export controls enable states to provide information to the IAEA on exports and imports as required by the AP. Reporting on the export of sensitive items is an important part of the AP. It is important to clarify that in export controls, the sensitive nuclear items form part of a 'trigger List', so-called because these items

⁹⁸ Susan F. Burk, Assistant Secretary for Non-proliferation, Testimony Before the Senate Foreign Relations Committee, Washington, DC, 29 January 2004.

http://www.nti.org/e_research/official_docs/dos/dos01292004_ap.pdf

⁹⁹ http://www.iaea.org/OurWork/SV/Safeguards/sg_protocol.html

trigger safeguards reporting. The list stems from the NPT exporters' committee called the Zangger Committee and is incorporated as Annex II in the IAEA AP and the NPT comprehensive safeguards agreements.

The export control regimes to regulate the supply of systems and material related to nuclear weapons have long been a central component of non-proliferation efforts and regimes. These multilateral export control regimes are introduced below.

Zangger Committee: the final text of the NPT had no clear implementation and enforcement strategy to its Article 2 commitments. The multilateral negotiations on nuclear export control resulted in the establishment of two separate mechanisms for dealing with nuclear exports. In 1974, the Nuclear Exporters Committee, known as the Zangger Committee¹⁰⁰ was established as an intergovernmental group to coordinate multilateral export controls on nuclear materials. The task of the ZC – also known as the Non-Proliferation Treaty Exporters Committee – is to consider how procedures for the export of nuclear material and equipment are related to the NPT commitments. Under the ZC, the NPT's opaque Article III.2 (focused on the safeguarding of nuclear exports) has been redefined. The committee introduced a trigger list in 1974 regarding the items which would require the application of IAEA safeguards if exported to a NNWS which was not party to the NPT. Since then the trigger list has been updated on a regular basis.

Nuclear Suppliers Group: This Group has been renamed from the London Group, which emerged in response to the Indian 1974 explosion with the purpose to stop the further proliferation of nuclear weapons. The group included both members and non-members of the ZC. The guidelines of the group were designed initially as a set of export rules for the IAEA in 1978 (IAEA Document INFCIRC/254, subsequently

¹⁰⁰ So called after its first chairman, Professor Claude Zangger of Switzerland.
<http://www.zanggercommittee.org/Seiten/default.aspx>

amended).¹⁰¹ The aim was to ensure that transfers of nuclear material would not be diverted to unsafeguarded nuclear fuel cycles or nuclear explosive activities. The NSG further elaborated NPT articles III.2 and IV. In addition, its ‘Trigger List’ was later adopted by the ZC as a further improvement.

Missile Technology Control Regime (MTCR): the MTCR was introduced as an informal non-treaty association of governments sharing common interests to promote the non-proliferation of missiles, unmanned aerial vehicles (UAV) and related technologies.¹⁰² Its aim is to prevent the proliferation nuclear capable missiles, defined as a missile capable of delivering at least 500 kg to a range of 300 km or more as well as systems intended for the delivery of weapons of mass destruction (WMD). The MTCR consists of a common export policy applied to a common list of controlled items. To date states such as Israel, India, Pakistan, China, the Democratic People’s Republic of Korea (DPRK) and Iran have not joined the regime.

The Wassenaar Arrangement (WA) was established in 1995 with the purpose of preventing the transfer of conventional weapons and sensitive dual-use material and technologies.¹⁰³ It was introduced to strengthen transparency, sharing information and views, and to prevent the acquisition of advanced conventional weapons and dual-use technologies in a more managed and responsible manner. This institution as such has no list of target countries but it is more directed towards terrorist groups, suspect organizations and individuals. Its carries a list of items and a dual use technology list based on two further categories. Category one is focused on sensitive items and technologies and category two includes very sensitive items that are subject to more stringent monitoring. This arrangement replaced the Cold War export control

¹⁰¹ <http://www.nuclearsuppliersgroup.org/Leng/default.htm> IAEA Document INFCIRC/254:
<http://www.iaea.org/Publications/Documents/Infcircs/Others/infcirc254.shtml>

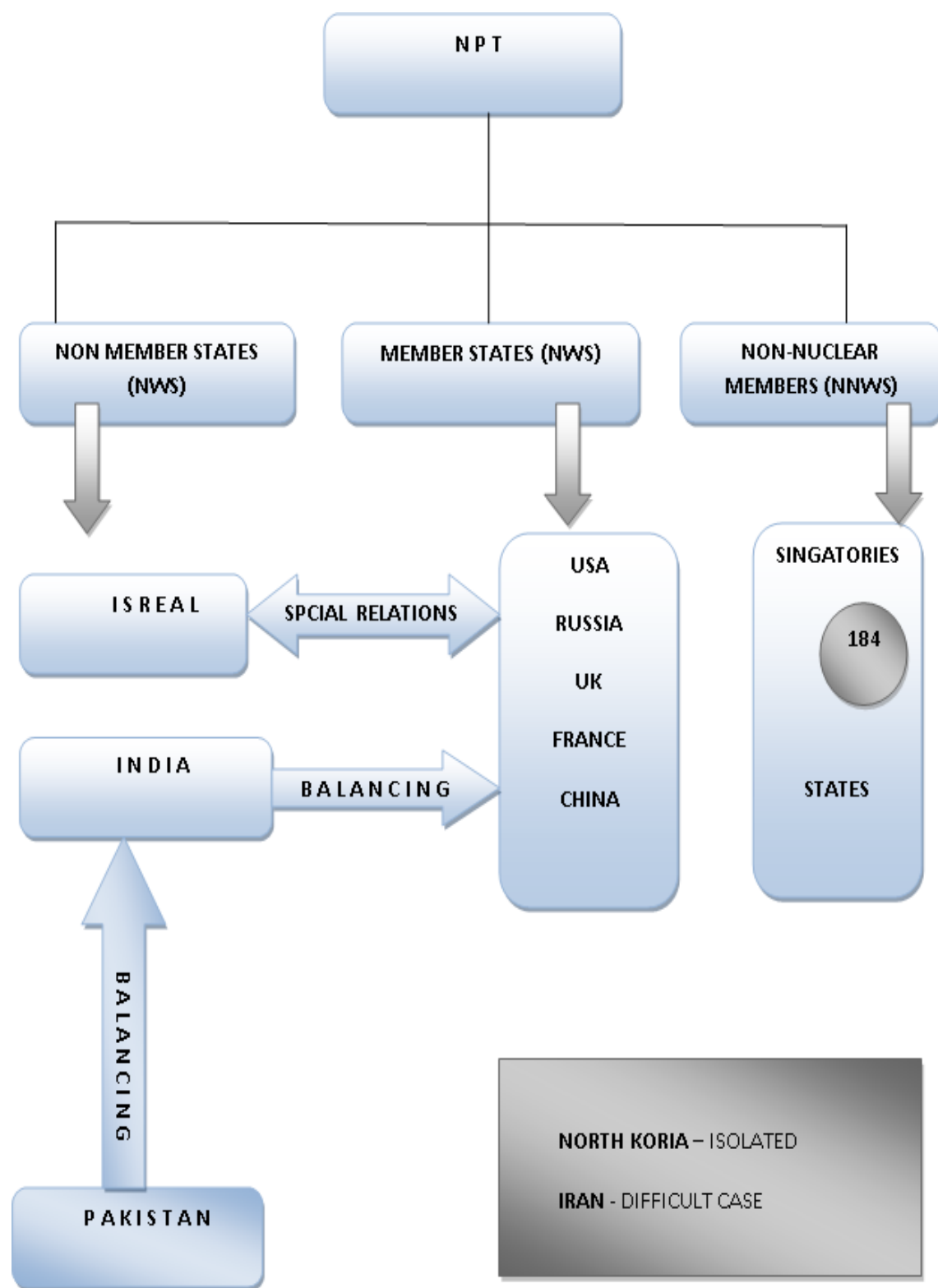
¹⁰² <http://www.mtcr.info/english/index.html>

¹⁰³ <http://www.wassenaar.org/>

mechanism, the Coordinating Committee for Multilateral Export Controls (COCOM – it was established in 1947 to place an embargo on COMECON countries; however it was abandoned in 1994 and replaced by the WA).

The purpose of each of these regimes was to fill the gaps in the non-proliferation regime and further strengthen the norms in regulating states' behaviour.

Summing up, the study reaches two fundamental conclusions. First, the UN Resolution 2028 (the key document for the initialisation of the NPT), the IAEA safeguards and export control regimes give an important legal status to the NPT. Second, since the treaty's inception, the majority of states (189) have joined the NPT. The Treaty has a long history with considerable success. For example, states such as Japan, Taiwan and South Korea abandoned nuclear weapons and joined the NPT regime while South East Asia announced a nuclear weapons free zone (NWFZ). Other states – such as the Ukraine, Belarus, Kazakhstan and South Africa – also gave up nuclear weapons and joined the treaty which shows its strengths. In particular, Libya announced the opening up of its facilities to the scrutiny of the US and the IAEA in 2003. These strengths give the NPT a strong institutional status.



PART III

The NPT and Nuclear Behaviour in South Asia (before 1998)

Indian Nuclear Behaviour and the NPT: Global anti-nuclear norms were first tested in 1974 when India exploded a so-called peaceful nuclear device, while accusing the NPT of establishing a form of ‘nuclear apartheid’.¹⁰⁴ India regarded the NPT as a ‘discriminatory treaty’, imposing a different set of rules on nuclear and non-nuclear weapons states, which had different rights and obligations. For many years India remained a critic of the international order embodied in the NPT, challenging it from outside while developing nuclear devices and keeping the nuclear option open until its second nuclear tests in 1998.

Initially, India was not in favour of nuclear weapons testing in the 1950s. Jawaharlal Nehru (Prime Minister of India from 1947 to 1964) stated: ‘Nuclear, chemical and biological energy and power should not be used to forge weapons of mass destruction.’¹⁰⁵ But Homi J. Bhaba (a successful Indian scientist who played the main role in developing the Indian nuclear weapons programme) and Nehru were engaged in technological advancement for both peaceful and military purposes to join the global club as soon as possible after the US and Soviet developments in the field of nuclear weapons. Moreover, China’s acquisition of a nuclear weapon in 1964 transformed both Nehru’s and Bhaba’s efforts. India, which had already fought a war with China in 1962, realised that possession of nuclear weapons had become a question of its security vis-à-

¹⁰⁴This refers to the idea that only a select few states which are members of the UNSC have the privilege to acquire nuclear technology and that they can use their power to prevent other states from building up their capacity for research and development of nuclear technology. Jaswant Singh, ‘Against Nuclear Apartheid’, *Foreign Affairs*, Vol.77, No.5 (September/October 1998), pp.41-52.

¹⁰⁵Statement by Ambassador Savitri Kunadi, Permanent Representative of India in the Plenary meeting of the Conference on Disarmament, 2 June 1998.
http://www.indianembassy.org/policy/CTBT/cd_june_02_98.htm

vis China. India, however, later proclaimed that its 1974 test was a ‘peaceful nuclear explosion’, on which it sought at great length to convince the world community. The Indian 1974 explosion was not only to counter the Chinese nuclear programme but also to join the club of nuclear weapons states. Indian policy is based on a monopolistic and hegemonic paradigm within the region, which enhanced and channelled its motives at a global level. According to the Indian embassy, ‘India eventually refused to sign the NPT when it became clear that, instead of addressing the central objective of universal and comprehensive non-proliferation, the treaty only legitimized the continuing possession and multiplication of nuclear stockpiles by those few states possessing them’.¹⁰⁶

Furthermore in 1965, along with a small group of non-aligned countries, India put forward the idea of an international non-proliferation agreement under which the nuclear weapon states would agree to give up their arsenals provided other countries refrained from developing or acquiring such weapons. This balance of rights and obligations was not accepted. In the 1960s our security concerns deepened. The country sought security guarantees but the countries we turned to were unable to extend to us the expected assurances. As a result, we made it clear that we would not be able to sign the NPT.¹⁰⁷

India sought security guarantees from the US, which was unable to extend the expected assurances, and left India allegedly with no choice but to follow the nuclear option. On the issue of nuclear weapons-free zones, India linked its concerns with the international community to initiate a Nuclear Weapons Free Zone (NWFZ) in other regions as well as South Asia. The Indian Ambassador stated that ‘[w]e fully respect the status of the [NWFZ] in south East Asia and are ready to convert this commitment into a legal Obligation. India will remain responsive to the expressed need for commitments

¹⁰⁶ Embassy of India, ‘Nuclear Non-Proliferation’.
http://www.indianembassy.org/policy/CTBT/embassy_non_proliferation.htm

¹⁰⁷ Statement by Ambassador Savitri Kunadi, Ibid.

to other nuclear weapons free zones as well'.¹⁰⁸ In a speech before the UN, Rajiv Gandhi, India's then Prime Minister, argued:

We cannot accept the logic that a few nations have the right to pursue their security by threatening the survival of mankind ... nor is it acceptable that those who possess nuclear weapons are freed of all controls while those without nuclear weapons are policed against their production. History is full of such prejudices paraded as iron laws: That men are superior to women; that white races are superior to the coloured; that colonialism is a civilizing mission; [and] that those who possess nuclear weapons are responsible powers and those who do not are not.¹⁰⁹

Above all India was also concerned that 'if the great powers and the UN failed to achieve nuclear and general disarmament soon, states like India would likely move to acquire their own deterrent arsenals'.¹¹⁰ Furthermore, '[i]n the absence of universal and non-discriminatory disarmament, we cannot accept a regime that creates an arbitrary division between [the] nuclear haves and have-nots. India believes that it is the sovereign right of every nation to make a judgement regarding its supreme national interests and exercise its sovereign choice. We subscribe to the principle of equal and legitimate security interests of nations and consider it a sovereign right.'¹¹¹

However, in light of these statements of intent, India once again violated non-proliferation norms in May 1998. India claimed that its 1998 tests were necessitated by China's emerging nuclear posture and Pakistan's missile developments, which heightened its security concerns. Nevertheless, this study strongly argues in chapters two and three that the Indian tests of 1998 were more status oriented than security oriented. The study shows in the following chapters that India faced no immediate threat from China in 1998 and in terms of conventional weapons was far superior to Pakistan.

¹⁰⁸ Ibid.

¹⁰⁹ Nuclear Proliferation, embassy of India.

http://www.indianembassy.org/policy/CTBT/embassy_non_proliferation.htm

¹¹⁰ Perkovich, *India's Nuclear Bomb*, p.68.

¹¹¹ Evolution of India's Nuclear Strategy. <http://www.indianembassy.org/pic/nuclearpolicy.htm>

Pakistan's Nuclear Behaviour and the NPT: Pakistan had a favourable posture toward the NPT from the outset. Initially, Pakistan's stance toward nuclear weapons was based on moral grounds and was presented consistently in all the international forums. The country took an ethical approach towards nuclear disarmament and arms control. However, when India increased the pace of its nuclear development by seeking to build nuclear weapons, Pakistan eventually shifted the direction of its nuclear policy. After the finalisation of the NPT, Pakistan refused to join the treaty when its principal security threat, India, refused to do so. Pakistan's policy toward the NPT has always remained consistent and clear: it would sign the treaty if India did so or when and if the international community provided it with full security assurances.

On many occasions the government of Pakistan made the international community aware of India's nuclear weapons development in its early stages. Agha Shahi, Pakistan's foreign minister, stated:

The government of Pakistan has reasons to believe that the government of India has decided to embark on a programme for the production of nuclear weapons and that in order to do so without violating the Limited Test Ban treaty, a test explosion of a nuclear device will be carried out underground in the near future, ostensibly for peaceful purposes.¹¹²

Pakistan, however, only embarked on the nuclear race after the humiliating defeat by India in the 1971 war, followed by India's nuclear tests in 1974. After these developments, Pakistan sensed that the acquisition of nuclear weapons was imperative for its security and survival and came to regard the non-proliferation treaty as a challenge to its national security.

Pakistan also supported the idea of a NWFZ for South Asia, which was a very positive sign for the NWS to keep South Asia out of nuclear developments. Pakistan's

¹¹² Chakma, 'The NPT, CTBT and Pakistan', p.269.

then Prime Minister Zulfikar Ali Bhutto put forward the 'proposal for a NWFZ in South Asia (in September 1972). The *Prime Minister*, reiterated the proposal, while inaugurating Pakistan's first nuclear power reactor'¹¹³ the Karachi Nuclear Power Plant (KANUPP). Furthermore, Pakistan also offered India bilaterally to forswear nuclear weapons, to agree to mutual inspection of nuclear facilities, to sign the NPT simultaneously and to open up its facilities for IAEA inspections. Pakistan again took a bold initiative at the UN General Assembly in 1974 by declaring that Islamabad proposed to transform South Asia into a NWFZ. However, all these initiatives were rejected by India. Thus, developments in India transformed Pakistan's policy with regard to compliance with NPT obligations. Agha Shahi stated: 'in the final analysis, the position of Pakistan with regard to signing the treaty will turn on consideration of its own enlightened national interests and national security in the geo-political context of the region in which Pakistan is situated.'¹¹⁴ Nevertheless, Pakistan also demanded its status under the NPT as a nuclear weapons state after the 1998 nuclear explosions. Pakistan's stance remained India-specific with regard to its nuclear weapons development as well as joining the NPT. However, Pakistan remains fully committed to the goal of general and complete disarmament and will continue to strive for it.¹¹⁵ Above all, Pakistan consistently maintained that it would sign the NPT if it was recognised as a nuclear weapons state. Pakistani officials maintain that the NPT is just one component of the non-proliferation regime. However, Pakistan regards it as a discriminatory regime that outlaws nuclear weapons for all states but five. If nuclear weapons are a threat to international peace and security, then they should be totally eliminated. In 1998, the ground realities changed and it would have been unrealistic to continue with the idea of a NWFZ in South Asia. The fact that Pakistan is not a party to

¹¹³ Mazari, 'Pakistan, NPT and Non-Proliferation Regime', p.17

¹¹⁴ Chakma, 'The NPT, CTBT and Pakistan,' p.270.

¹¹⁵ Kamran Akhtar, Interview (Islamabad, Oct.2008).

the NPT does not mean that it is opposed to the global non-proliferation norms. However, while staying outside the NPT, Pakistan despite the non-proliferation hurdles and technical challenges, implemented procurement strategies and completed its nuclear programme.

India and Pakistan exploded their nuclear devices in defiance of international norms three years after the indefinite extension of the NPT in 1995. The two sets of nuclear tests did not deal a fatal blow to the global nuclear order but seriously damaged it, undermining the principle of universality which was emphasized at the NPT extension conference in 1995, obstructing the entry into force of the CTBT and negotiations for the FMCT. (In December 1993 a resolution had been adopted by the UN General Assembly recommending the negotiation of a non-discriminatory, multilateral, and internationally verifiable treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices.)

Since they were not NPT members, by exploding nuclear devices in 1998 India and Pakistan challenged the global nuclear order but did not break international law. However, while the South Asian nuclear tests did not formally violate the NPT accord, they certainly broke the norm against nuclear proliferation. Carranza concludes that the behaviour of India and Pakistan in 1998 did not break international law¹¹⁶ since both states remained outside the NPT treaty and its legal norms; nevertheless, ‘they deprived the NPT of universality’.¹¹⁷ Had both states been members of the NPT would they have proceeded to an open breach of the NPT’s agreed legal norms? As matters stood both then and now, the NPT is unable to influence the behaviour of either India or Pakistan. The NPT and the non-proliferation regime failed to control the behaviour of India and Pakistan or to bring them back into cooperation.

¹¹⁶ Carranza, *South Asian Security and International Nuclear Order*, pp.43–45.

¹¹⁷ *Ibid.*, p.43.

The Status of the NPT: Regime theory and the three models approach

The main principles involved in the NPT were *non-proliferation*, *disarmament* and the *right to the peaceful use of nuclear technology*. The regime was initiated to preserve non-proliferation and disarmament norms in the realm of security. It was projected as an instrument for maintaining peace and security in the world. However, once the NPT norms had been set, a crisis of trust resulted because of the formulation of different rules for the nuclear 'haves' and the nuclear 'have nots'. Nevertheless, the NWS were legally bound and committed to disarmament and limiting the nuclear arms race with the ultimate aim of complete disarmament. The NWS have failed in their compliance with this NPT obligation. Analysis of the motivation behind non-compliance suggests that a realist interpretation, such as that articulated by Mearsheimer, may in fact be accurate. One of the central realist arguments is that great powers are driven more by considerations of 'power' and their state 'interests' than by normative considerations. The realist assumption that cooperation is difficult gains credence in the South Asian case.

The existence of three non-member NWS (India, Israel and Pakistan) raises another question, which is about the survival of the NPT. The NPT failed to control the nuclear behaviour of these non-NPT states. Therefore this study seeks to evaluate the treaty weaknesses diagnosing why it failed to control the behaviour of Pakistan by its rules and norms. Why does Pakistan remain outside the treaty? Why has the NPT not succeeded in strengthening the taboo norm against the spread of nuclear weapons in a manner comparable to the norm against the use of nuclear weapons? What are the possibilities for further institutionalising and legalising the role of the NPT so as to give it greater powers to control the behaviour of states?

However, on the more positive side, over the last decade the treaty has achieved some important successes which cannot be ignored as highlighted above. Nearly forty years since its inception, very few states have violated the treaty. Ultimately, neo-liberal institutionalism clearly warrants consideration as a valid interpretation given the relatively small number of nuclear states in the world today. Kennedy's prediction of 20 nuclear states by 1980 has not been fulfilled thirty years later. It is clear that, as neo-liberals such as Robert Keohane argue, mutual self-interest can in fact lead to cooperation. Keeping the neoliberals' assumptions in view it can be argued that the inception of the NPT was in the interest of most states, not just the great powers, and as such, cooperation was made possible.¹¹⁸

The treaty's indefinite extension in 1995 and the renunciation of nuclear weapons by many states indicate that the regime has generally worked and that cooperation among states has improved as is suggested by regime theory. Most countries have dismantled their nuclear installations and joined the NPT. Adherence to the AP of the IAEA has grown in recent years, including all the original NWS (China's acceptance came into force on 28 March 2002; that of the UK and France on 30 April 2004; Russia's on 16 October 2007; and that of the USA on 6 January 2009, one of the last acts of the G. W. Bush regime shortly prior to Obama's inauguration on 20 January).¹¹⁹ Robert Keohane and Lisa Martin believe that institutions facilitate easier data exchange and make agreements more trustworthy, especially when the treaties also include inspection guidelines to prevent non-compliance.¹²⁰ It can be argued that this is what has made a greater degree of cooperation possible, although a number of states have also reconsidered and reassessed their national self-interest and national priorities.

¹¹⁸ Francois de Soete, 'The Nuclear Non-Proliferation Regime: Trying to Maintain the Status Quo', <http://www.cda-cdai.ca/cdai/uploads/cdai/2009/04/soete03.pdf>

¹¹⁹ Perhaps by this stage influenced by Obama's nuclear non-proliferation agenda and the views of the transition team.

¹²⁰ Keohane and Martin, 'The Promise of Institutional Theory' p. 42.

The arguments taken from regime theory and the neoliberal school provide us with the sense of direction to manoeuvre and strengthen such cooperation to achieve the desired goals of the NPT. Moreover, it is strongly argued here that without institutions, cooperation among states is not possible and that without cooperation the world declines into a self-help situation. Neoliberals help us to understand how Pakistan's behaviour can be changed through institutional cooperation by strengthening the NPT. This is discussed in the following chapters. The arguments of the constructivists also provide us with a critique of the NPT in the following chapters.

Conclusion

Regime theory and the three relevant schools of thought provide important conceptual tools to help us understand international institutions and their role in changing states' behaviour. Regime theory, and neo-liberalism (the functionalist theory, neo-functionalist regional integration theory and interdependence theory) all challenge aspects of realist theory, which argues that the extent to which states can cooperate through institutions is essentially limited. These supportive theories contend that institutions are an important factor in building cooperation and changing states' behaviour in a world of multiple competing issues.

This study has sought to evaluate the role of Pakistan and the NPT in reference to the above debate. Thus, after evaluation of the evidence and appropriate theoretical arguments, this study proceeds to argue that IAEA safeguards and its export control regime give an important legal status to the NPT. The large membership of the treaty is another important factor which strengthens its role as central to the non-proliferation regime. Clearly non-party states such as Pakistan provide a particular challenge to the non-proliferation regime. Why should Pakistan continue to remain outside the treaty

and what are the possibilities for further institutionalising and legalising the role of the NPT and its capacity to regulate state behaviour? Pakistan is an important case in its own right but consideration of this example may also suggest principles of action which may be applied to other non-NPT states, and to newly emerging or potential nuclear states (such as Egypt and Saudi Arabia).

Chapter Two

Identifying Pakistan's Nuclear Behaviour (1950s-1986)

Part I

Introduction

Pakistan's experience in acquiring its nuclear weapons reveals the complexities and dilemmas of a determined nation confronting an evolving non-proliferation regime. Pakistan took its decision to develop nuclear weapons in an environment in which the NPT presented a number of serious technological, economic, political and strategic constraints that might have served to limit the country's options for acquiring nuclear weapons. Evading the NPT, Pakistan implemented procurement strategies and completed its nuclear programme.

There are range of factors and motives which shape states' behaviour towards the acquisition of nuclear weapons, notwithstanding the existence of international non-proliferation institutions and anti-nuclear norms which prohibit such acquisition. Some states acquire them for their security and survival, the so-called 'domino effect',¹ whereby if one country acquires a nuclear capability the neighbouring country will feel a need to follow suit. Some states acquire nuclear capability as a symbol of modernity, power (regional dominance) and status or prestige. Indeed, having nuclear weapons, states obtain a dominant position and their profile increases in the world hierarchy.² States' ambitions to acquire nuclear weapons can also be driven by fear of foreign invasion and states think that possession of nuclear weapons will prevent foreign

¹Frank Barnaby, et al., 'Constructive Approaches to Limiting the Spread of Nuclear Weapons: Some Proposals for Government Action', p.4.

² Ibid.

attacks. This chapter aims to analyze the main factors and compulsions behind Pakistan's nuclear build up.

When states decide to build nuclear weapons and they lack a substantial infrastructure, manpower and knowledge, so they must seek assistance from other states. In nuclear sharing, providing and receiving states are always allies. However, if the state seeking such assistance does not receive it directly then it must resort to the use of agents (private firms, individuals operating in the black market who intend to make a profit or direct and indirect associations of individuals involved in this type of business) and use whatever means necessary to achieve their ends. This chapter seeks to analyze the processes by which Pakistan procured its nuclear weapons programme. The realist, neo-liberal and constructivist arguments will be utilized to understand the strategic environment of the South Asian region and explain why nuclear weapons became an attractive security option for Pakistan.

With the context of this debate, the following sections seek to answer these questions:

- *What motivated Pakistan to build a bomb while remaining outside the NPT and international cooperation on non-proliferation?*
- *What motivated other states and allies to share nuclear technology with Pakistan in building up its nuclear programme?*
- *How and when was Pakistan able to accomplish this task?*
- *Why did international institutions fail to bring Pakistan into cooperation?*
- *How far does regime theory explain Pakistan's normative behaviour?*

To answer the above questions, analysis in this chapter is deployed to test Pakistan's nuclear behaviour by demonstrating the way in which Pakistan's peaceful nuclear weapons programme was diverted into a military orientation. By drawing on regime theory as the basic underlying theoretical concept towards changing states'

behaviour, this study might provoke criticism by those who consider the application of realist theory alone sufficient to analyze developments in the semi-anarchic South Asian region. Such criticism can be countered by pointing to the core nature of regime theory, that is, its attempt to make general statements about international cooperation and human interaction based on institutional cooperation for the resolution of conflicts and problems. Rather than attempting to describe Pakistan's nuclear behaviour through one approach, this chapter tests each of the three competing theories and models to identify Pakistan's actual behaviour from the 1950s to mid-1980s –that is, the period during which Pakistan acquired its undeclared nuclear capability.

Strategic Culture

In August 1947 Britain implemented its earlier decision to partition the religiously and ethnically diverse Indian empire into two independent states, subsequently giving rise to territorial conflicts that have shaped the South Asian regional environment. The first consequence was a recurring sense of Pakistan being discriminated against at the time of partition which stemmed from the most basic perception: the idea of inequality. Disputes followed the distribution of military and civil assets between the two states, the precise demarcation of the geographically separate new joint state of West and East Pakistan, the economic and social imbalance between the two regions and the poor infrastructure the joint state inherited from the Raj. The second consequence was human rights violations and atrocities and the resulting resentment and suspicion between different religious communities. Partition left hundreds of thousands of casualties. The precise figures are not known, but perhaps more than a million migrants were slaughtered, while the remaining religious minorities

experienced discrimination.³ A large number of civil servants and military left their families trapped in communal riots and mass migration.⁴ The third phenomenon was the *lack of institutional structures*. Most of the developed institutions abandoned by the British went to India. For example, India inherited the state buildings in Delhi and the Parliament. Pakistan had to create alternatives for itself in Karachi. Likewise the training arrangements for the Indian civil service were inherited by India, and Pakistan had to develop its own. The economic heart of undivided India was Bombay, which of course went to India.

The fourth phenomenon was conflicting ideologies (Muslim identity versus the Indian secular state). Pakistan sought self-determination on the basis of the two nations theory⁵ and fought its struggle for a separate land on religious lines. It can be argued that Muslim identity featured as the fundamental motive in Pakistani nation building after 1947. Thus, the ideologies of the two states also determined the course of antagonism. The fifth important phenomenon was a territorial dispute over the Muslim majority state of Jammu and Kashmir.⁶ India and Pakistan fought the first Kashmir war of 1947–1948 after the end of British rule. Thus territorial clashes and the overwhelming risk of war in the region greatly affected the Pakistani national psyche. The distribution of the natural resources of the Indus River system between India and Pakistan was linked with the issue of Kashmir. If the water issue had been resolved, the

³ Stanely A. Wolpert, *A New History of India* (New York: Oxford University Press, 6th edition, 2000).

⁴ Rizvi, 'Pakistan's Strategic Culture' pp. 309-310.

⁵ This theory was the basis for the Partition of India in 1947, which is that Muslims and Hindus were two separate nations by every definition. Therefore the Muslims should have an autonomous homeland. Richard Bonney, *Three Giants of South Asia: Gandhi, Ambedkar and Jinnah on Self-Determination* (New Delhi: Media House Publications, 2004).

⁶ Kashmir was a princely state under the rule of a Hindu Maharaja (with the population divided between 77 percent Muslims and 20 percent Hindus) and in 1947 at the conclusion of British rule and subsequent partition of the sub-continent, the decision was left to the Maharaja as to whether to join India or Pakistan. His decision – which was to opt for India – was supposed to be confirmed by a plebiscite of the people, which has never been held. Since 1947–8 Kashmir has become a major territorial issue between India and Pakistan. Victoria Schofield, *Kashmir in the Crossfire* (London: I. B. Tauris, 1996). Schofield, *Kashmir in Conflict: India, Pakistan And the Unending War* (London: I. B. Tauris, 2nd edition, 2003).

Kashmir question might not have existed in such an acute form. Any solution to the Jammu and Kashmir question is dependent on the fair distribution of river waters. These issues shaped South Asian strategic culture. Within this strategic culture, Pakistan identified India from the outset as its principal threat and adversary.

From independence to 1965: A Comparison of Indo–Pakistan Nuclear capacities

To initiate a nuclear programme, a state requires certain important variables: (1) knowledge (2) basic infrastructure such as fissile material and technological capacity; and (3) political will. Initially, Pakistan possessed none of the above variables resulting from its socio-political environment, lack of scientific awareness, poor infrastructure and most importantly, lack of political will. For example, under the US ‘Atoms for Peace programme’ (December 1953), the US established nuclear cooperation with Pakistan in August 1955. The US took the initiative of signing an agreement with Pakistan to provide it with a research reactor and enriched uranium fuel to operate it. Under this agreement, the US agreed to release US \$350,000 to Pakistan for research purposes while Pakistan could invest an equal amount to fulfil its requirements.⁷ Subsequently, Pakistan established an Atomic Energy Commission in 1956. The Pakistan Atomic Energy Commission (PAEC) came into being entirely for peaceful purposes under the leadership of Dr. Nazir Ahmed, a Cambridge graduate who had been the Director of the Indian Cotton Textile Institute in Bombay before the partition of the subcontinent.

Pakistan’s inherited strategic culture was centred on the fear of Indian regional dominance. The pro-West military were firmly in charge of Pakistan’s security policy,

⁷ Strong and Trento, *America and the Islamic Bomb: The Deadly Compromise*, p.20.

relying on external alliances to counter the Indian threat in the 1950s. Pakistan joined a number of US alliances: the Southeast Asia Treaty Organization (SEATO), and later the Central Treaty Organization (CENTO),⁸ seeking (though not attaining) security guarantees to meet the Indian threat. Pakistan's strong alliance with the US gave it leverage to consolidate its defence link with the West and to build up its conventional forces to meet any emerging threat from India.⁹ The Pakistani establishment did respond to Indian attitudes and policy with regard to domestic, political and military issues, but not in the area of nuclear policy.¹⁰ Within regime theory, neo-liberal assumptions can be utilized to explain how states prefer cooperation in pursuit of absolute gains. Pakistan believed that it would achieve greater advantage from joining alliances and would pay a higher cost had it attempted to survive unilaterally. It is contended here, following neo-liberal arguments that the Pakistani state sought in this period to comply with those international rules and norms which were still taking a shape and which guided its behaviour.

Furthermore, Pakistan's domestic behaviour and lack of political interest in acquiring nuclear weapons was based on several factors. The first generation of political leaders was preoccupied with fundamental problems of state building such as weak institutions, economic crisis, and most importantly, ongoing constitutional issues (the first constitution of 1956 was revised in 1962 and 1973). PAEC was running into bureaucratic trouble,¹¹ which indicates that the government had little interest in its development. Civilian and military elites dominated Pakistan's power structure from

⁸ The North Atlantic Treaty Organization (NATO), the Southeast Asia Treaty Organization (SEATO), and the Central Treaty Organization (CENTO) were regarded important in the post-war period to protect member-countries from Communist aggression and conspiracy. Mansoor Akbar Kundi, 'US Pakistan's Relations under Khan, 1958–69: Impact on South Asia', *A Research Journal of South Asian Studies*, Vol.24, No.2 (July–December 2009).

⁹ Samina Ahmed, 'Pakistan's Nuclear Program', *International Security*, Vol.23, No.4 (Spring 1999), p.181.

¹⁰ Kapur, *Pakistan's Nuclear Development*, p.40.

¹¹ *Ibid.* p.38.

1957–8. PAEC received no attention and support from these bureaucrats. For example, when it started working on the CP-5 reactor, supply arrangements from Canada were in process for an NRX reactor but the Ministry of Finance denied the allocation of funds and disrupted this deal. Furthermore, when Dr. Nazir Ahmed sought to convince Ghulam Farooq, then Chairman of the Pakistan Industrial Development Corporation (PIDC) of the technical feasibility of setting up a plant to produce 50 kilograms per day of heavy water¹² the proposal was ignored. Nazir's lack of experience and weak political skills failed to mobilize the requisite resources and political support in his favour.

Hans Blix suggests that 'Pakistan is a feudal state where decisions always come from the top leadership, overlapped with a feudal mind-set'.¹³ Nazir himself believed that the bureaucracy was the main obstacle to any project he sought to initiate.¹⁴ According to Kapur, however, the bureaucracy was not the real impediment to Ahmed's plans: it was his poor strategy, his lack of knowledge about research reactors and his insistence on the CP5 research reactor rather than a light water uranium research reactor which the US was willing to supply.¹⁵ Pakistan's alliance with the West also remains one of the critical factors hindering progress. As Rehman argues, all routes were closed off to Pakistan for the acquisition of nuclear technology except for civil purposes because of the declared US policy:¹⁶ the bureaucratic elites accepted that US nuclear assistance could not be used for anything other than peaceful purposes. Pakistan placed considerable reliance on the US alliance to counter any Indian conventional threat and could not afford to alienate its principal arms supplier. The public also lacked knowledge of nuclear issues so there was no build up of public support behind the

¹² Rehman, *Long Road to Chagai*, p.24.

¹³ Hans Blix, Interview (Tucson, Arizona. 16 July 2009).

¹⁴ Kapur, *Pakistan's Nuclear Development*, pp.38–39.

¹⁵ Ibid., p.39.

¹⁶ Rehman, *Long Road to Chagai*, pp.22–26.

acquisition of a nuclear weapon. To sum up here, the lack of political will and the behaviour of the elites (especially their lack of vision and strategic approach) slowed down the pace even of acquiring a peaceful nuclear capability.

During this phase, Pakistan's support for arms control and disarmament came on to the agenda at the UN when its diplomats declared their voice for total disarmament in 1951 at the sixth session of the General Assembly. Pakistan played a vital role in the UN Disarmament Commission as a non-permanent member of the Security Council in 1952–4.¹⁷ Pakistan again supported the Irish proposal on nuclear non-proliferation in mid-1958 at the UN.¹⁸ Pakistan's actions in this period thus exemplify the neo-liberal and constructivist model.

In contrast, the Indian peaceful nuclear programme was initiated in April 1945 by establishing the Tata Institute of Fundamental Research (TIFR) under Dr Homi Bhabha, and the Atomic Energy Research Committee (AER) in 1946 with Bhabha as its chairman. In June 1946, Pandit Jawaharlal Nehru (later India's first Prime Minister) declared:

As long as the world is constituted as it is, every country will have to devise and use the latest scientific devices for its protection. I have no doubt India will develop [its] scientific researches and I hope Indian scientists will use the atomic force for constructive purposes. But if India is threatened, [it] will inevitably try to defend [itself] by all means at [its] disposal.¹⁹

On independence India inherited a well-conceived peaceful nuclear programme. There was a huge bureaucratic and scientific gap between the Indian and Pakistani programmes. In such a strategic culture, the Indian intentions were to dominate the South Asian region, economically, technologically and militarily. The Indian state started enhancing its atomic energy policy on 15 August 1948 when it established the

¹⁷ Shireen Mazari, 'Pakistan, the NPT and the Non-proliferation Regime', p.14.

¹⁸ Ibid.

¹⁹ Quoted in Perkovich, *India's Nuclear Bomb*, p.14.

Indian Atomic Energy Commission (IAEC) under the chairmanship of Bhabha and the 'direct personal oversight' of the Prime Minister. During this phase, according to Ramana: 'India's large nuclear program for energy purposes was planned; nevertheless, the defence purpose was privately acknowledged and informed the plans.'²⁰ India was ambitious to utilise indigenous capabilities for covering the entire fuel cycle. Over time, India developed nuclear reactors, and facilities for mining uranium, fabricating fuel, manufacturing heavy water, and reprocessing spent fuel to extract plutonium. India was offered help from the US, UK and Canada to enhance its emerging technological research and development prowess during this phase. India also benefited from the US 'Atoms for Peace Program'. It was offered \$80 million for its nuclear reactor at Tarapur by the US. India introduced its first indigenous research reactor, APSARA, a small swimming pool type uranium enrichment research reactor which nevertheless later went critical in 1955. India acquired a heavy water reactor in 1956 known as the Canada–India reactor (CIR) at the time when there were no international safeguards in place. When the US provided assistance for starting the reactors, the reactor was renamed the 'Canada–India reactor US' (CIRUS) which began operation in 1960. This special foreign assistance provided India with an ability to extract plutonium and later to make nuclear weapons. India also acquired Canada Deuterium Uranium (CANDU) technology from Canada during the 1950s and 1960s and was able to acquire reprocessing, fuel fabrication and heavy water indigenously. CANDU was a 40-megawatt heavy water moderate research reactor. Furthermore, India started its search for equipment for its Trombay Plutonium reprocessing facility as early as 1958²¹ – this was completed in the 1960s.

²⁰ M. V. Ramana, 'The Indian Nuclear Bomb – Long in Making', p.1.

²¹ Akhtar Ali, *Pakistan's Nuclear Dilemma: Energy and Security Dimensions* (Karachi: Economist Research Unit, 1984) p.46.

Unlike Pakistan, India had consistent political and bureaucratic support from the outset. It possessed a highly trained and skilled scientific and bureaucratic community. Furthermore, Bhabha had a very close links with Prime Minister Nehru who assisted him throughout. The Indians, on the one hand, intended to master nuclear science and technology to cope with economic problems and, on the other hand, both Bhabha and Nehru wanted to use the technology for military means to counter the nuclear monopoly of the great powers. Kapur maintains that 'India initiated its nuclear programme as purely civilian but Bhabha's motivation was to build a bomb'.²² Bhabha had been able to convince Nehru to use the technology for defence purposes.

Nehru's and Bhabha's intentions can be evaluated through the domestic politics model which suggests that bureaucratic actors influence government policies to develop or abandon the nuclear bomb.²³ Sagan believes that whether or not nuclear weapons serve the national interest, they are likely to serve the parochial bureaucratic or political interests of at least of some individual actors within the state.²⁴ Richard K. Betts argues that domestic politics and the internal structure of a state play a pivotal role in the proliferation puzzle.²⁵ Peter Lavoy's mythmaking model – that strategic mythmakers play an important role in shaping states' behaviour²⁶ – along with Sagan's and Betts' arguments validate Kapur's statement in regard to Bhabha's intentions to build a bomb. Stephen P. Cohen also further reinforces these arguments when he states that India was driven by the desire of its scientists to demonstrate that Indian science was as good as anyone else's.²⁷

²² Kapur, *Pakistan's Nuclear Development*, p.44.

²³ Sagan, 'Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb', *International Security*, Vol. 21 No. 3 (Winter 1996/1997), pp.57–63.

²⁴ Ibid. p.63.

²⁵ Richard K. Betts, 'Paranoids, Pygmies, Pariahs, and Non-proliferation Revisited,' in Davis and Frankel (eds.), *The Proliferation Puzzle* (London: Routledge, 1993), pp.100-24.

²⁶ Lavoy, 'Pakistan's Strategic Culture', pp.14-17.

²⁷ Stephen P. Cohen, Interview , Brookings Institution, Washington D.C. (27 July 2009).

Pakistan's Conventional Response to Indian Threats

Pakistan however, was not directly influenced by the Indian peaceful nuclear developments. Rather, a sense of insecurity, embedded in Pakistan's strategic culture, shaped its conventional defence. Thus, Pakistan's military command took the initiative to modernise its conventional capacities which they believed were sufficient to meet an emerging Indian threat. Pakistan at the same time still blindly relied on the West to counter any Indian threat. The historic animosity between the two states had no effect on Pakistan's peaceful nuclear programme during this phase; however, it may be argued that India did shape Pakistan's military and security activities in the context of conventional weapons.²⁸

Here the realist model appears insufficient to take full account of Pakistan's strategic culture and domestic politics. Feroz Khan's study gives impression that a motivated state will develop nuclear weapons if it believes in their feasibility and utility.²⁹ His argument suggests that if the Pakistani elites had had the intention of developing a nuclear programme, they could have utilized the available options, but they were not interested in doing so notwithstanding the fact that a security threat did exist. Furthermore, the US regulated Pakistan's normative behaviour through its strong institutional alliances, which helped to ensure that the Pakistani elites did not take an interest in nuclear developments for military purposes. Pakistan's behaviour was aligned with global normative frameworks during this phase, as suggested by regime theory's maxim that cooperation works among states. Thus, the neo-liberal paradigm has considerable explanatory weight for this period of Pakistan's history, when it relied totally on its alliance with the US to counter the emerging threat from India.

²⁸ Kapur, *Pakistan's Nuclear Development*, p.80.

²⁹ Feroz Khan, 'Comparative Strategic Culture: The Case of Pakistan', Centre for Contemporary Conflict, *Strategic Insights*, Vol.4, Issue 10 (Oct 2005). See also at: <http://www.nps.edu/Academics/centers/ccf/publications/OnlineJournal/2005/Oct/khan2Oct05.pdf>

Changes occurred in Pakistan's institutions in March 1960 when Dr. Ishrat Hussain Usmani replaced Nazir Ahmed as Chairman of PAEC and made it much more independent than previously. Before partition, Usmani had been a member of the Indian Civil Service; a physicist by training, he graduated from Imperial College, London. Usmani was well qualified to formulate and implement nuclear strategies from the administrative sector to nuclear power production. His experience gave a secure base to Pakistan's nuclear infrastructure. Unlike Ahmed, Usmani introduced an administratively strong, economically defensible, and competitive approach through an effective scientific and bureaucratic political coalition. During this phase, Usmani built a very strong coalition with President Ayub, Dr. Abdus Salam (later in 1979, a Nobel Laureate) and Zulfikar Ali Bhutto (then Minister in charge of atomic energy). This team dedicated its efforts to developing nuclear energy for peaceful purposes in Pakistan. Kapur considers that Bhutto, as Minister of Natural Resources, did not play any role in the early development of nuclear energy in Pakistan. He was just member of the Usmani–Salam coalition.³⁰ He does, however, maintain that Bhutto played a positive role in the meeting which approved the Karachi Nuclear Power Project (KANUPP) reactor in 1963 when the cabinet was under pressure to approve a power reactor for East Pakistan also. Most importantly, during this phase, the government allocated a small budget of Rs. 46.5 million to the nuclear energy sector, which included the training of nuclear scientists and engineers; exploration of radioactive minerals; the establishment of the Institute of Nuclear Research and Reactor Technology and a range of isotope technical centres.³¹ During this phase, Pakistan also built the Institute of Nuclear Science and Technology (PINSTECH) as a principal nuclear research centre. This institute was focused on a research reactor and a reprocessing plant. The research

³⁰ Kapur, *Pakistan's Nuclear Development*, p.54.

³¹ Chakma, 'Road to Chagai', p.876.

reactor, a 5-megawatt (MW) one, was utilized for an Enriched Uranium programme known as the Pakistan Research Reactor (PARR) supplied by the US under its 'Atoms for Peace Program', which started working in the 1965 under IAEA safeguards.

Usmani's strong relations with Salam helped him to strengthen the base of the project. Salam, who was also the chief scientific advisor to the president, was purely an academic but he possessed great experience as the head of the IAEA's International Centre for Theoretical Physics at Trieste. Usmani was entirely focused on nuclear power generation through the application of atomic science and radio isotopes. He was devoted to gaining an international reputation for Pakistan's nuclear and scientific establishment and he sought international cooperation to train scientists and assistance from western allies for the completion of the nuclear power generation goal. For these purposes he also participated in international safeguards regimes. Usmani's stance helped Pakistan to develop its commercial nuclear power under IAEA international safeguards. This policy also influenced the Canada-Pakistan agreement (started in 1966) concerning KANUPP because IAEA safeguards were a condition of Canadian reactor supply. Salam along with Usmani played a key role in bringing on skilled scientists and sending them abroad for training and higher studies at the world's best universities and laboratories.³² This indicates the charismatic personality of Usmani, who changed the bureaucratic system and attracted funds for PAEC as required. He was also able to initiate the Pakistan Institute of Science and Technology (PINSTECH) and played a role in the completion of KANUPP which Nazir Ahmed had failed to achieve.

During this phase Pakistan was well aware of Indian nuclear activities. In 1961, India started work on the PURINAM, another fast breeder reactor, which later provided

³² Rehman, *Long Road to Chagai*, p.19.

the foundation for its breeder reactor programme.³³ Pakistani officials were aware of the Indian objective of building nuclear weapons in the near future. Chakma writes that Pakistan believed that India and China were developing atomic bombs.³⁴ After China's 1964 test, the Indian nuclear debate accelerated to counter the Chinese threat. Pakistan's apprehension towards Indian nuclear ambitions increased.

This phase was very important for Pakistan's nuclear energy in constructing its first power reactor. In 1965, Pakistan signed an agreement with Canada and purchased a 137-MW heavy water reactor. Furthermore, Canada also decided to supply natural uranium, heavy water for the operation of the plant and technical assistance to Pakistan. Pakistan placed its reactors under the IAEA safeguards, which shows that at this time it was not focused on building its own nuclear weapons programme. During this phase, the Pakistan government also invested \$400 million for the construction of KANUPP which began in 1966 and was completed in 1971.

Usmani gained the bureaucrats' support but it can be argued that during this phase, Pakistan did not secure any serious commitment from the political establishment to its nuclear programme. Due to lack of skills, manpower and industrial resources Pakistan did not attempt to use nuclear energy for military purposes. Chakma argues that 'there is no evidence that Pakistan ever considered to use nuclear power for military purposes during these two phases'.³⁵ All the Pakistani political and military officials who have been interviewed for this study such as Asif Durrani, General Ehsan, Riffat Hussain and so on maintain that Pakistan had no intention of taking a nuclear route for military purposes during this phase due to its poor infrastructure and lack of political will.

³³ G. G. Mirchandani and P. K. S. Namboodiri, *Nuclear India: a Technological Assessment* (New Delhi: Vision Books, 1981), p.87.

³⁴ Chakma, 'Long Road to Chagai', p.878.

³⁵ Ibid.

The realist's security maximization model – that states preserve their sovereignty and protect their national security via self-help by gaining access to a nuclear deterrent – was not adopted by the state of Pakistan during this phase. Instead its policy adhered to the neo-liberal model. The sharing of technology from the West was on a commercial basis to enhance economic gains and build up cooperation with states to divert their attention away from the nuclear weapon programme. States' nuclear cooperation can also be interpreted on the basis of Parochial Interests.³⁶ Koblentz believes 'states engage in nuclear sharing in order to obtain material benefits (cash, weapons, or natural resources) for sub-state actors either as an end itself or as a means to an end (bureaucratic autonomy and prestige)'.³⁷ This kind of sharing or commercial cooperation includes provision of civilian nuclear technology for peaceful purposes mainly takes place on a state to state basis and by legal means.

The 1965 War and Policy shifts in Pakistan: Elite Decisions and Changing Threat Perception

India and Pakistan fought a second war in 1965 over the status of the state of Jammu and Kashmir, resulting in heightened domestic unrest. This war left thousands of casualties on both sides and had considerable implications for Pakistan's defence and nuclear policy. Pakistan appeared incapable of regaining control over Kashmir. The conflict reopened the issue of Pakistan's inferiority in conventional weapons vis-à-vis India. Pakistan did not receive any assistance from its Western defence alliances such as SEATO or CENTO. Instead of helping Pakistan, the US banned the supply of weaponry

³⁶ Gregory D. Koblentz, 'The Politics of Nuclear Cooperation: Why states share nuclear weapons technology', Annual meeting of the American Political Science Association (1–4 September 2005), p.16. http://web.mit.edu/polisci/students/gkoblentz/koblentz_nuclear_cooperation.pdf

³⁷ Ibid. p.17.

and imposed arms embargoes on both states. As a result, Pakistan revisited its policies, first drifting away and later withdrawing altogether from SEATO. In its place Pakistan sought to cultivate a firm alliance with China. China later became an important supplier of conventional weapons.³⁸ Koblentz's Security Model³⁹ of nuclear sharing helps understand how states build up nuclear cooperation and share nuclear technology to strengthen their national security and counter external threats. When states perceive threats from their adversaries, they certainly seek help from very close allies. When states have a common adversary, they show the capability for cooperation without difficulty, such as the Chinese–Pakistan entente to counter India. Koblentz maintains that 'states help an ally on the basis of the logic that "the enemy of my enemy is my friend"'.⁴⁰ Samina Ahmed maintains that the Pakistani military did not believe that Chinese help alone was adequate to counter India's advanced conventional threat.⁴¹ After the war, Pakistan's policy became entirely India-specific, focused on the question of its security and survival.

These incidents created an interest within Pakistan's Foreign Ministry in the acquisition of a nuclear bomb. Bhutto as foreign minister declared in 1966 that 'even if Pakistanis have to eat grass, we will make the bomb'.⁴² This created a distance between Usmani, Salam and him. Usmani and Salam were working on the nuclear project entirely for peaceful purposes, while Bhutto was obsessed with India's emerging nuclear ambitions and dominance in the region. Yet Ayub Khan rejected Bhutto's plan for a Rs. 3,000 million reprocessing plant, realizing that 'Pakistan's economy could not

³⁸ Ahmed, 'Pakistan's Nuclear Program', p.182.

³⁹ Koblentz, 'The Politics of Nuclear Cooperation', pp.14-16.

⁴⁰ Ibid. p.15. The aphorism quoted is extremely old and is usually attributed to Kautilya in *The Arthashastra*, although it does not appear quite in that form there.

⁴¹ Ahmed, 'Pakistan's Nuclear Program', p. 182.

⁴² Quoted in Zafar Iqbal Cheema, 'Pakistan's Nuclear Policies: Attitude and Postures', in P. R. Chari, Pervez Iqbal Cheema and Iftekharruzzaman (eds.), *Nuclear Non-Proliferation in India and Pakistan: South Asian Perspectives* (New Delhi: Manohar, 1996), p.10.

bear such a heavy burden'.⁴³ Bhutto left the foreign ministry in 1966. After he left the government, Bhutto created a new awareness among the Pakistani populace that the nuclear acquisition or a weapon was an important domestic issue. Bhutto debated the nuclear issue in order to win public support for his personal drive for power. General Aslam Beg (Former Chief of Pakistan's Army Staff) contends that 'he [Bhutto] wanted to strengthen his own position vis-à-vis the military'.⁴⁴ Bhutto at the same time was also concerned to do something to counter India's emerging nuclear threat.⁴⁵ Bhutto believed that Pakistan could only be protected against a nuclearized India by obtaining the same technology.

Pakistan was also highly concerned over the unsafeguarded CIR, for India was ambitious of making nuclear weapons and this reactor could produce sufficient plutonium to manufacture nuclear bombs. During this period Pakistan kept the US aware that its technology transfer to India could create a sixth nuclear weapons nation. Yet with American and Canadian assistance, India continued to develop nuclear devices which deepened Pakistan's apprehensions. India first acquired a heavy water facility domestically but later, from 1962 onwards, it acquired another from Germany.⁴⁶ In 1963, Nehru attempted to convince the Indian Parliament to develop nuclear weapons. Bhabha declared in 1964 that 'India is capable of developing nuclear weapons within 18 months if it wishes to do so'.⁴⁷ This statement heightened the fears of the Pakistani establishment, both in political and military circles. Pakistan perceived that India's nuclear threat would endanger its security and sovereignty. In 1966, the Indian Ambassador informed the UN of India's right to develop nuclear explosives for

⁴³ Savita Pande, 'Pakistan's Nuclear Strategy,' *Asian Strategic Review* (1993–94), p. 325

⁴⁴ General Mirza Aslam Beg, interview, FRIENDS, Rawalpindi, Pakistan (July 2007).

⁴⁵ Zulfikar Ali Bhutto, *The Myth of Independence* (New York: Oxford University Press, 1969), p.153.

⁴⁶ Kapur, *Pakistan's Nuclear Development*, p.75.

⁴⁷ Ibid., p.73.

peaceful means under international supervision.⁴⁸ Pakistan had apprehensions about the agreement which India entered into with the US in 1963, under which the US provided India with general electric supply of 210-magawatt research reactors, the Tarapur I & II (TAPS I & II) which were boiling water research reactors operating on a turnkey basis. They started functioning in 1969.⁴⁹

Pakistan's behaviour towards global non-proliferation trends remained again positive towards the NPT in its initial stages. Pakistan supported the final NPT draft but refused to sign the NPT in 1968 because India failed to do so. Agha Shahi, Pakistan's Permanent Representative to UN from 1967 to 1972, stated: 'the position of Pakistan with regard to signing the treaty will turn on considerations of its own enlightened national interest and national security in the geopolitical context of the region in which Pakistan is situated.'⁵⁰ It can be argued that Pakistan kept its nuclear policy option open to retain its nuclear weapons development in order to counter Indian emerging threats. Keeping nuclear option open did not mean that Pakistan had decided to embark on a nuclear programme. This phase again relates Pakistan's case with regime theory, constructivists and neo-liberal models. Pakistan was aligned with the global non-proliferation norms but it was concerned on Indian behaviour which was going in breach of set norms.

India did not slow down its policy to achieve a maximum of nuclear expertise which was shown when Bhabha received approval from then Prime Minister Shastri to carry out an underground nuclear explosion project in 1964. These developments were announced at the fourth Geneva Conference: India's intention was to carry out an

⁴⁸ Ibid.

⁴⁹ Akhtar Ali, *Pakistan's Nuclear Dilemmas: Energy and Security Dimensions*, (Karachi: Economic Research Unit), p.46

⁵⁰ Chakma, *Pakistan's Nuclear Weapons*, p.85

underground nuclear explosion⁵¹ which was confirmed in July 1971 under Indira Gandhi's administration.

Indian nuclear developments and its refusal to permit international inspection on some of its nuclear facilities further raised concerns in Pakistan. It became clear that India was planning to build nuclear weapons.⁵² Pakistan also was well aware of the projected Indian Peaceful Nuclear Explosion (PNE) which was being acquired after the Chinese test. After 1968, when the international nuclear order established by the NPT allocated the benefits entirely to the P5, India also increased its demands and demanded a fair share of power within the nuclear club.

During this period, in Pakistan, PAEC received political support to enhance Pakistan's scientific research base.⁵³ President Ayub opposed the development of Pakistan's nuclear weapons because in his view Pakistan had no military, economic and political need for them. Kapur also denies that Pakistan had any intention of acquiring nuclear weapons to counter Indian reprocessing.⁵⁴ Kapur further maintains that 'Pakistan's civilian nuclear programme during the 1950s and the 1960s was not influenced by the Indian nuclear programme (1940s-1960s)'.⁵⁵ During this era, Kapur believes that there were no imperatives on the Pakistan bureaucracy to go nuclear. Neither Pakistan's President nor scientists such as Usmani and Salam had any intention to acquire a nuclear bomb. Indeed, President Ayub Khan had faith in the security alliances with the US and overruled Bhutto's nuclear lobbying. Ayub believed in conventional military force, which was dependent on the Western alliance and secure supplies. Kapur argues strongly that 'during 1964-71, Bhutto's Foreign Office

⁵¹ Munir Ahmed Khan, 'Nuclear Issue in South Asia', *Dawn* (17 November 1991).

⁵² Chakma, *Pakistan's Nuclear Weapons*, p.83.

⁵³ Kapur, *Pakistan's Nuclear Development*, pp.60-61.

⁵⁴ *Ibid.*, p.74.

⁵⁵ *Ibid.*, p.80.

advocacy to adopt a nuclear option could not convince the Government of Pakistan'.⁵⁶ Yet Pakistan's policy toward the NPT was clearly influenced by the Indian stance. International institutions and US policy failed to secure Pakistan's cooperation because of the lack of security guarantees against Indian aggression. Indian behaviour in building up its nuclear facilities, and staying outside the NPT, had a profound effect on the state of Pakistan. Pakistan's very survival demanded a strong defence capability. The realist security model became relevant to this phase of its history.

The Security Factor (1970–75)

Pakistan's nuclear/state policy – security environment

Six years after the 1965 war, the Indo-Pakistan war of 1971 began as a civil war in the eastern wing of Pakistan, and ended up with Indian involvement resulting in the dismemberment of Pakistan (East Pakistan becoming Bangladesh). This war did not originate from the inherited hatred and antagonism between India and Pakistan, but was triggered by a secessionist uprising in East Pakistan which India chose to support by open military intervention for reasons of its own state interest. East Pakistan might have become a valuable strategic asset for Pakistan to counter India, but it had always proved difficult to manage East Pakistan given the distances involved and the lack of a land corridor between the western and eastern parts of the federation. Some argue that the breakup of the federation had positive implications for Pakistan's security – that it emerged as a stronger and more stable state which could focus its energies more effectively.⁵⁷ This is one reason why the military has played such an important role in Pakistan since 1971 because it was the one institution with a strong regional basis in West Pakistan. Economically, partitioned East Pakistan in 1947 was recognized as very

⁵⁶ Kapur, *Pakistan's Nuclear Development*, p.78.

⁵⁷ Professor Richard Bonney, Interview, University of Leicester (15 April 2010).

weak without the natural regional capital of Calcutta. West Pakistan was better placed because it had Karachi and Lahore, but most of the economy was still rural based.⁵⁸

Nevertheless, this partition of Pakistan in 1971 provoked a profound crisis for former West Pakistan. In interview, General Ehsan expressed his feelings thus: ‘ever since the creation of Pakistan we have been faced with an existential threat from India and this threat came to the fore ... with the events of 1971 when Pakistan was divided through an Indian invasion and Bangladesh was created.’⁵⁹

Mrs Indira Gandhi said two things which are very instructive: firstly, she said that we have avenged the history of 1,000 years of Muslim rule in India. Secondly, we have proven the two nations theory wrong, which meant that she was questioning the very existence of Pakistan as a nation. There is something which her father, Nehru, had also said when Pakistan was created: Pakistan is not viable, it’s just a matter of time for this to fall apart and rejoin mother India. And this has been the perception that the Indians do not accept the existence of Pakistan. So it is this sort of existential threat which non-Pakistanis fail to understand, which drove Pakistan to a security-centric approach in its national policy.⁶⁰

Realist assumptions help us to understand that, in the South Asian semi-anarchic system, states possess the ability to damage each other. Realism helps to see with a clear lens that the survival of the states is the utmost priority where it thinks strategically and acts rationally. The realist assumption is valid that Pakistani leaders had to meet the Indian threat given that dependence on international assistance seemed to have failed in 1971.⁶¹

⁵⁸ Ibid.

⁵⁹ General Ehsan, Former Director General ISI, interview, London (2009).

⁶⁰ Ibid.

⁶¹ Ibid. ‘Indira Gandhi, the Prime Minister of India at the time, is on record as having said at a public meeting that “a thousand years had been avenged”. It was evident to all, that “1,000 years” was a reference to 800 years of Muslim rule in India followed by 200 years of British rule. Bengali nationalism was only incidental, fostered by India to serve her purpose and larger interests in the region.’

<http://www.defencejournal.com/dec98/security.htm>

Pakistan takes the official Route to build a bomb – Elites and the scientific strategists' role

After the secession of Bangladesh, Bhutto took power on 20 December 1971 following the resignation of Yahya Khan⁶² and reassessed Pakistan's security and defence policies. Pakistan also revisited its alliance with the US and withdrew from SEATO within two years.⁶³ Bhutto refocused foreign policy towards the Muslim world, particularly as a source of political and financial support. Out of grants of \$88.9 million received by Pakistan in 1973–9 from Muslim countries, by far the greatest proportion – \$79 million – came from Saudi Arabia. Loans and credits greatly exceeded the amount of grants. In the same period, Iran under the last Shah provided \$641.2 million, 55 per cent of the total (\$1,165.4 million dollars), followed some way behind by Abu Dhabi (\$153 million) and Saudi Arabia (\$130.7 million), Libya (\$80 million) and Kuwait (\$69 million).⁶⁴ 'An era of new defence thinking'⁶⁵ started in Pakistan's history, financed in part by loans from Muslim majority countries. On 20 January 1972, Bhutto made the critical political commitment. He held an emergency meeting of 283 nuclear scientists at Multan on 20 January 1972 and declared that he required a nuclear weapon produced within three years. He told the assembled scientists that 'I shall find you the required resources and I shall find you the facilities'.⁶⁶ Bhutto not only expanded the size of the armed forces but also initiated a nuclear weapons programme 'with the help of military and civil bureaucracy'.⁶⁷ It is important to note that this time it was not just the elite's decision to embark upon a nuclear programme but it became state policy under Bhutto's leadership. Chakma argues that Bhutto was the political father of Pakistan's nuclear

⁶² Bhutto became the president, army commander-in-chief as well as the first civilian chief martial law administrator until 21 April 1972.

⁶³ Pakistan withdrew from SEATO on 7 Nov. 1973.

⁶⁴ Jamil Rashid, 'Pakistan in the Debt Trap', in Hassan Gardezi and Jamil Rashid (eds.), *Pakistan: the unstable state* (Lahore: Vanguard Books, 1983), p.135, based on *Pakistan Economic Survey*, 1978–9.

⁶⁵ Chakma, 'Long Road to Chagai', p. 886.

⁶⁶ Kapur, *Pakistan's Nuclear Development*, p.136.

⁶⁷ Ahmed, 'Pakistan's Nuclear Program,' p.183.

programme (in its civil as well as military aspects). Bhutto himself took charge of the Nuclear Energy Affairs division. He announced a separate Ministry of Science, Technology and Production to expedite scientific development in Pakistan. Munir Ahmed Khan was one of the scientists who went to the US under the Atoms for Peace programme. After studying at North Carolina State College he gained work experience from Argon Laboratory in Chicago. Subsequently, he joined the IAEA in 1958. He was summoned from the IAEA to Pakistan by Bhutto to work on the nuclear programme as well as to enhance the peaceful uses of nuclear energy.

For its part, India continued to build up its nuclear facilities. India stayed out of the non-proliferation regime regarding it as a matter of ‘inequality and injustice’⁶⁸ yet wished to join the global nuclear club to prove its global status. In 1973, it received a nuclear power reactor, RAPP I – a pressurised heavy water reactor working on natural uranium – from Canada. Nevertheless, the entire 202 MW power plant was placed under IAEA safeguards. Although India did not explode a nuclear device until 1974, Bhutto was always aware that the Indians were working on this when they refused to sign the NPT in 1968. Pakistan had not recovered from the trauma of 1971 when the second jolt appeared in Pakistan’s history when India exploded its nuclear device (‘Smiling Buddha’) on 18 May 1974 at Pokhran. At the time it was called a PNE, though subsequently it was admitted by Raj Ramanna, the Director of India’s nuclear programme at the time, ‘the Pokhran test was a bomb, I can tell you now... An explosion is an explosion, a gun is a gun, whether you shoot at someone or shoot at the ground... I just want to make clear that the test was not all that peaceful.’⁶⁹ It was the possession of the allegedly peaceful CIRUS and Trombay facilities which made this

⁶⁸ Karsten Frey, *Elite Perception and Biased Strategic Policy Making: The Case of India’s Nuclear Build-up*. Inaugural Dissertation, Ruprecht-Karls-Universitat Heidelberg (Oct. 2004).

⁶⁹ Raj Ramanna, speaking to the Press Trust of India, 10 October 1997.
<http://nuclearweaponarchive.org/India/IndiaSmiling.html>

nuclear test possible. India had specifically broken an undertaking it had given to Canadian Prime Minister Pierre Trudeau in 1971. As Bhutto remarked to Kissinger, 'India has always gained by breaking promises'.⁷⁰ General Ehsan robustly argues the distinction between India's and Pakistan's behaviour towards global nuclear institutions and norms:

Pakistan has violated no laws; India has violated their solemn agreements with the Canadian and Americans by using those technologies [which they received for peaceful purposes]. They are the ones who have stolen technologies. The Canadians, Soviet Union and French were directly helping them. Instead of India being pressurized, all the sanctions and pressures were directed at Pakistan.⁷¹

He adds:

Even just before 1974, I have it on good authority that the Americans knew that they were preparing for tests yet they were soft on that. The reason was they thought that after the 1971 war Indira Gandhi's stature had risen internationally. India was acceptable to play a global role. Secondly, international opinion on non-proliferation was very divided. There was a huge economic commercial interest of Europeans in India. The Soviet Union was supporting India. The French and British were supporting India. The US because of the cold war situation thought that if they sought to restrain India, India would fall even deeper into the Soviet lap. So as a consequence, there was hardly any international response to the 1974 test which was indeed cynical, called by India 'Smiling Buddha'.⁷²

Gen Ehsan further argues:

We had always been drawing to the attention of the international community the fact that India will make a nuclear weapon. They need it for their prestige, they need it for their international stature, and they need it to prove that Hindus are a force in international politics. Unfortunately the international community did not pay heed to our warnings.⁷³

⁷⁰ Memorandum of Conversation. The Secretary's Meeting with Prime Minister Bhutto, 26 February 1976, p. 24. Downloadable from <http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB193/index.htm>

⁷¹ General Ehsan, interview (2009).

⁷² Ibid.

⁷³ Ibid.

It is important to point out that Pakistan informed the UN Secretary-General about the impending Indian nuclear explosion. Agha Shahi noted:

The government of Pakistan have reasons to believe that the Government of India have decided to embark on a program for the production of nuclear weapons and that in order to do so without violating the Limited Test Ban Treaty, a test explosion of a nuclear device will be carried out underground in the near future, ostensibly for peaceful purposes.⁷⁴

Why did India take ten years to explode its nuclear device in 1974 when it had claimed it had the capacity from 1960–5 onwards to do so within 18 months?⁷⁵ Three factors need to be taken into account, apart from Indira Gandhi's more pugnacious stance compared to her predecessors. The first was that in April 1970 China 'for the first time launched a long-ranger rocket carrying a satellite into orbit. This raised the spectre of a significant Chinese ballistic missile capability to launch nuclear warheads at distant targets'.⁷⁶ The second was Indira Gandhi's declining political popularity at home. She was able to claim that the nuclear test proved 'that the new nuclear know-how and technology would contribute to India's development, even if the economically advanced nations would suggest otherwise'.⁷⁷ Thirdly, and perhaps most pressing of all, was the partial test ban treaty which India had signed on 8 August 1963. Pakistan signed up to the treaty six days later, but did not ratify it until March 1988. India, however, had ratified the treaty in October 1963. The treaty had envisaged a permanent ban on tests, including those underground: given that the United States had rejected in 1970 the specious Indian reasoning on the distinction between a PNE and a test for military

⁷⁴ Bhumitra Chakma, 'The NPT, the CTBT and Pakistan: Explaining the non-adherence posture of a *de facto* nuclear state', *Asian Security*, Vol. 1 Number 3 (2005), 267–84.

⁷⁵ Stephen P. Cohen, interview (2009). Professor Mark Phythian, interview, University of Leicester (18 December 2009).

⁷⁶ Perkovich, *India's Nuclear Bomb*, p.151.

⁷⁷ *Ibid.*, p.178-179.

purposes, it was necessary for India to proceed rapidly before any new treaty banning underground tests might be negotiated.⁷⁸

The Indian so-called PNE posed a grave threat to Pakistan's security. These tests raised deep security concerns in the Pakistani establishment and forced Islamabad to invest even more heavily in efforts underway to acquire nuclear weapons to match the much larger and better-equipped Indian army. Regional stability has been severely challenged ever since 1974.⁷⁹ General Ehsan noted that, as a consequence of the Indian PNE, the people of Pakistan came to the conclusion that they had to depend on their own resources.⁸⁰ Moreover, the Indian nuclear explosion confirmed the loopholes in the NPT regime. Riffat Hussain has suggested that in the 1970s non-proliferation dynamics slowed down because of the long gap between the Chinese and the Indian tests. There was an expectation that countries would not proliferate.⁸¹ Kapur maintains that 'the Western governments lacked the will and the mechanism to create an airtight non-proliferation system, and they lacked a policing or an enforcement mechanism'.⁸² He further maintains that Western intelligence failed to fill the vacuum in the non-proliferation system.⁸³

Realism helps us to understand Pakistan's position that states are primarily concerned with their own survival in the international order (thus, security concerns predominate)⁸⁴ and that regional semi-anarchy forced Pakistan to survive via self-help⁸⁵

⁷⁸ The provisions of subparagraph 1b of the treaty of 5 Aug. 1963 were declared 'without prejudice to the conclusion of a Treaty resulting in the permanent banning of all nuclear test explosions, including all such explosions underground, the conclusion of which, as the Parties have stated in the Preamble to this Treaty, they seek to achieve.' In 1970, the US had rejected the Indian distinction between a peaceful nuclear explosion and a weapon: Perkovich, *India's Nuclear Bomb*, p.159.

⁷⁹ Zachary A. Townsend, 'A Re-Evaluation of Clinton's Non-proliferation Policy', Centre for the Study of Presidency. http://www.thepresidency.org/Publications/fellows2007_book.htm

⁸⁰ General Ehsan, interview (2009).

⁸¹ Riffat Hussain, Interview (Washington D.C. 26 Jul 2009).

⁸² Ashok Kapur, *Pakistan's Nuclear Development*, p.142.

⁸³ Ibid.

⁸⁴ Kate O' Neill, et al., 'Actors, Norms and Impact', p.153.

⁸⁵ Solingen, *Nuclear Logics*, p.24.

and increasingly to avoid international cooperation, institutions and international norms. Realism suggests that in such scenario morality has no ground. Pakistan preferred to deal with its chief adversary by building up its own arms and winning allies instead of building up cooperation towards arms control based on the common interests of the great powers. Thus, the Indian explosion gave official status to Bhutto's pursuit of nuclear weapons. Finally, Bhutto's government officially approved the building of a nuclear bomb at a cabinet defence committee meeting on 15 June 1974 right after the Indian nuclear tests.⁸⁶

After the Indian nuclear explosion, Bhutto realised that there was a need to address the issue seriously within the international community in order to mobilize its support for Pakistan. He also sought nuclear deterrence guarantees from the world community against the Indian threat. Therefore, Bhutto wrote a letter to the heads of five nuclear weapons states explaining the security situation.⁸⁷ Subsequently, Pakistan's Foreign Minister, Agha Shahi, visited China, France and Britain where he explained Pakistan's position and the Indian threat to its sovereignty. Most importantly, Pakistan immediately submitted a proposal to the UN General Assembly in 1974 to establish a Nuclear Weapons Free Zone in South Asia (NWFZSA). This was a viable approach to keep South Asia out of a nuclear armaments race. Subsequently, Pakistan kept asking for security assurances in international forums while it was a member of CENTO. The CENTO states rejected Pakistan's request for security guarantees against the Indian nuclear threat. Like SEATO in 1965, CENTO also proved to be of no assistance to Pakistan, either in the 1971 war or after the 1974 Indian nuclear explosions. Realist assumptions about states' interest in the context of international institutions, which limit the extent of cooperation in the international system, cannot be neglected here.

⁸⁶ PakDef E-Reporter, Pakistan Military Consortium, Vol. I, No. 2, Dec. 2006/Jan 2007.

⁸⁷ Kapur, *Pakistan's Nuclear Development*, p.889.

Pakistan's nuclear programme was entirely security driven and India-specific and the policy held firm in spite of the objections of Henry Kissinger, expressed in a personal interview with Bhutto at Lahore in August 1976. Even relatively late on, however, in a meeting with Kissinger on 26 February 1976, Bhutto was inclined towards the opinion that "an embryonic capability ... may prove helpful" in getting India to accept a nuclear-free zone'.⁸⁸ International institutions such as the UN and the non-proliferation regime failed Pakistan in 1974 when they refrained from denouncing the Indian PNE, which contributed to the shaping of Pakistan's nuclear behaviour.⁸⁹ The Western powers and the Soviet Union had their own commercial interests with India and did not pay sufficient heed to its nuclear weapons programme. In the eyes of Pakistan, the muted response to the Indian nuclear explosion confirmed the Western powers' double standards as well as the weaknesses and loopholes in the NPT regime. Thus, the realist model helps to understand the security needs of Pakistan in seeking to acquire a nuclear weapons capability in the semi-anarchic region of South Asia. It is an important historical fact, however, that Pakistan consistently advocated the idea of turning South Asia into a NWFZ, and it was India's rejection of this and its aggressive

⁸⁸Earlier, Kissinger had 'expressed concern about Pakistan's dealings with the French to secure reprocessing technology: "what concerns us is how reprocessing facilities are used at a certain point." After the Pakistanis cited earlier assurances on safeguards for nuclear facilities, Kissinger said he was concerned about "realities" not "words"; safeguarded deals were not enough because one side could break an agreement. While Bhutto declared that "We don't want to explode a bomb", it was evident that he thought that Pakistan should continue its nuclear development programme: "an embryonic capability ... may prove helpful" in getting India to accept a nuclear-free zone.' <http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB193/index.htm> 'Deputy chief of the US mission in Islamabad, Gerald Feuerstein, who was a witness to the meeting between former premier Zulfikar Ali Bhutto and former US secretary of state Henry Kissinger in Lahore in August 1976, admitted that Bhutto rejected the "warning" to disband Pakistan's nuclear programme.' 'Zulfikar Ali Bhutto rejected Kissinger's warning over nukes', *Daily Times* (4 April 2010). http://www.dailytimes.com.pk/default.asp?page=2010\04\04\story_4-4-2010_pg7_15

⁸⁹Gerald Feuerstein 'denied that the US had adopted double standards in [the] case of [the] nuclear programmes of India or Israel, compared to its stance on Iran or Pakistan, but admitted the US did not impose sanctions on India after its first nuclear test'. Ibid.

designs on Pakistan – acknowledged by Henry Kissinger himself in his meeting with Bhutto on 26 February 1976⁹⁰ – that left it with no alternative.

Pakistan continued to state that it was willing to sign the NPT if India did so first (Pakistan officially mentioned India's name in 1979).⁹¹ It considered that the NPT would 'possess little appeal and exert less weight if the near nuclear states do not subscribe to it'.⁹² Pakistan favoured the total elimination of WMDs, including all chemical and biological weapons. It also believed that the NPT must result in the complete elimination of nuclear weapons and do so according to a fixed timetable of 10–15 years, with a regular review of its implementation.⁹³ Thus, neo-liberal and constructivist models are relevant here in helping to understand that Pakistan was even at this late stage (prior to 1976) seeking help through cooperation in order not to breach the non-proliferation regime.

⁹⁰ 'My basic perception of India is that she sooner or later will have another go at Pakistan, regardless of the Soviet viewpoint, although the Soviets would certainly come to the assistance of India. As long as this Prime Minister [Indira Gandhi] is in office, the danger persists. I myself heard her say that the Northwest Frontier Province really belongs to India, and there is no way to get to them except through the Punjab.' Memorandum of Conversation. The Secretary's Meeting with Prime Minister Bhutto, 26 February 1976, p. 27. Downloadable from <http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB193/index.htm>

⁹¹ Chakma, 'The NPT, the CTBT and Pakistan: Explaining the Non-adherence Posture of a *De Facto* Nuclear State', *Asian Security*, Vol.1, No.3 (September 2005), pp.267- 284.

⁹² Sahabzada Yaqoob Khan, 'Nuclear Non-proliferation in South Asia', *Strategic Studies Islamabad*, Vol.10, No.4 (Summer and Autumn 1987), p. 24.

⁹³ Agha Shahi, 'Non-proliferation Issues in South Asia', in Ishtiaq Ahmed (ed.), *Nuclear Non-proliferation Issues in South Asia*, p.2.

Part II

Pakistan Achieves Nuclear Capability: the role of the scientific elite, 1975–87

Having addressed the question of why Pakistan developed nuclear technology, this section proceeds to evaluate how the Pakistani state was able to develop a bomb and who were its allies and shareholders after Bhutto officially approved the project. Pakistan was not capable of building indigenous nuclear weapons without assistance from other states and allies. To illustrate this argument it is important to consider Koblentz's Security Model – Chinese help to Pakistan on the basis of the enemy of my enemy is my friend – and the Parochial Interests model⁹⁴ – MNCs and European firms made profits by supplying parts needed to meet Pakistan's demand. An application of these models helps us understand the true picture of Pakistan's nuclear weapons development through the help of outsiders.

The realist model assists us in evaluating how it was that Pakistan initially in a self-help situation took the plutonium reprocessing route and later the enrichment route to meet the Indian threat. The plutonium route requires a nuclear reactor, reprocessing plant and facilities on a large scale. Plutonium can be used as nuclear reactor fuel as well as to develop nuclear weapons. The plutonium isotope, Pu-239, is not available in nature, but is formed in the burnt fuel of a nuclear reactor. However, this large-scale project is difficult to initiate because it requires resources from across the globe. However, Pakistan sought to purchase a commercial scale reprocessing facility from France in 1973. Bhutto also sought the uranium route to develop the bomb. Uranium enrichment involved a more complex and difficult technology compared to the plutonium route. In uranium enrichment more than one way can be explored to enrich

⁹⁴ Ibid.

uranium – for example, gaseous diffusion, gas centrifuge, laser separation, aerodynamic nozzle and electromagnetic. Natural uranium contains two isotopes: U-238 (99.3 percent) and U-235 (0.7 percent). Highly Enriched Uranium (93 percent U-235) is required to make a bomb. The enrichment process separates the two isotopes up to a high concentration of U-235. In the gaseous diffusion method, raw uranium is converted to gas by forcing through a semi-porous membrane to separate U-238 and U-235 isotopes. However, to obtain a higher concentration of U-235 this process must be repeated at thousands of stages. Uranium enrichment requires ultra-high speed centrifuges to process gaseous uranium (uranium hexafluoride or UF₆). David Armstrong maintain that Pakistan had insufficient resources, no plutonium or highly enriched uranium, no money and a weak infrastructure and know-how to run such an expensive and complex project.⁹⁵ This is relevant to the realist approach: how did Pakistan initiate the route towards weapons acquisition in a self-help situation in order to preserve its security and survival?

After developing sufficient political will and winning over public opinion, Bhutto moved to establish strong international cooperation and strengthened a broader coalition including China, the West and certain Muslim majority states against Russia and India. Bhutto publicised this cause of developing relations with Islamic states among the masses.⁹⁶ He involved the public through emotional appeals and with their support he took decisions to build up cooperation with the Islamic world ‘to acquire economic incentives’⁹⁷ and strengthen his image among the Pakistani public. Bhutto also mobilized strategic scientific elites. For example, he convinced Abdus Salam to change his mind on the Bomb project after India exploded its PNE in 1974. Salam

⁹⁵ Armstrong and Trento, ‘America and the Islamic Bomb’, p.32.

⁹⁶ ‘Bangladesh with love!!!’,

http://www.youtube.com/watch?v=51I1WWXH0Gc&feature=player_embedded

⁹⁷ Kapur, *Pakistan’s Nuclear Development*, p.150.

resigned in 1975 as scientific advisor to the government (and his contribution formally ended in 1978), the reprocessing route was running successfully and A.Q. Khan had returned to Pakistan.⁹⁸ Both the plutonium and uranium routes were actively pursued after the 1974 Indian PNE. A.Q. Khan also decided to contribute to Pakistan's nuclear weapons programme. Khan's expertise included uranium enrichment techniques from his work with FDO⁹⁹ in Holland. Khan's PhD degree in Metallurgy, his association with the Almelo Plant – the most sensitive Plant within FDO – and his expertise in uranium enrichment (centrifuge technology) convinced Bhutto of his value. Additionally, Khan presented his view that Pakistan should adopt the enrichment of uranium route to build a bomb which was viable, cost effective and achievable. He offered his services and claimed to have a profound knowledge of the subject. This offer occurred at a time when Bhutto was concerned at the slow pace of the PAEC plutonium programme and when Canada had decided to withhold assistance for the reactor it had built. However, Pakistan's decision to develop nuclear weapons at this stage should not be interpreted as Bhutto's alone. It was a decision of the Pakistani state, implemented by Bhutto as a head of state.

A.Q. Khan visited Pakistan from December 1974 to January 1975. Munir Ahmed Khan was asked to meet him. Khan held a number of meetings with Munir Khan to discuss enrichment processes, their cost and the earliest possible completion dates. Subsequently, Khan visited the PAEC and PINSTECH facilities which he found to be very basic. He was determined to achieve the goal of the government which was ready to provide new facilities. Munir Khan then asked Sultan Bashiruddin Mahmood to

⁹⁸ Corera, *Shopping for Bombs*, pp.14-32.

⁹⁹ FDO is a subcontractor of UC related work at Urenco's subsidiary Ultra-Centrifuge Nederland (UCN) in Almelo. UCN is the Dutch partner in the (Urenco), uranium enrichment consortium, Holland, which deals with range of expertise such as research, manufacturing and design of railway engines, wind tunnels, power-loom spindles, solar energy, desalination plants and most importantly ultracentrifuge technology.

prepare a feasibility report on the development of a uranium bomb. However, in November 1974, Mahmood's report concluded that 'with a centrifuge-enrichment plant Pakistan could produce enough weapons-grade uranium to build a bomb by 1979'.¹⁰⁰ The cost assumption which appeared in the report was US \$450 million. Rehman wrote that report contained three components:¹⁰¹

- a) to set up a centrifuge plant for the purpose;
- b) to develop a uranium mine at Baghalchor, Dera Ghazi Khan and also set up a project to supply hexafluoride or UF₆, a gas form which is used to pass uranium through the centrifuge; and
- c) to set up a weapons design programme

Subsequently, Mahmood became the director of the uranium enrichment programme which was later called project '706' and was approved by Bhutto, although it had no well established facilities, and only a slim research and development infrastructure. After this brief trip to Pakistan, A. Q. Khan returned to Holland and started research on enrichment uranium, as well as advising from Holland on work to be done in Pakistan. 'Khan started working for the Government of Pakistan as late as 1974, after the Indian nuclear tests.'¹⁰²

Munir Khan shaped Pakistan's nuclear programme in a multifaceted manner both for peaceful as well as military purposes. The defence report (in January 2007) reveals that he started work on a weapon design even before starting work on uranium enrichment and plutonium production;¹⁰³ this study will challenge this assertion below. He gathered together a team of expert scientists and engineers. It is interesting to notice

¹⁰⁰ Armstrong and Trento, *America and Islamic Bomb*, p.50.

¹⁰¹ Rehman, *Long Road to Chagai*, p.50.

¹⁰² Weissman and Krosney, *The Islamic Bomb: The Nuclear Threat to Israel and the Middle East* (Times Books: 1 January 1981).

¹⁰³ 'Pakistan's Nuclear Journey - from Multan to Chaghi', *PakDef E-Reporter*, Pakistan Military Consortium, p.37.

that each directorate was operating with 700-800 scientists, engineers and technicians.¹⁰⁴ He gave them the tasks of establishing and developing know-how with regard to nuclear capability such as plutonium production, uranium enrichment, reprocessing facilities, fabrication of nuclear fuel, facilities for the nuclear fuel cycle, nuclear power reactors and weapons design development along with testing facilities.

A.Q. Khan visited Pakistan again in late 1975, but was disappointed with the slow progress of the enrichment project. As a result he wrote to Prime Minister Bhutto who appointed him as an advisor to the PAEC; later he was appointed as its research director, whereupon a bureaucratic struggle started between Munir Khan and A.Q. Khan. The latter informed Bhutto, that ‘he found himself helpless to do anything in the face of bureaucratic delays’.¹⁰⁵ Bhutto decided in July 1976 that the enrichment project should be placed under A.Q. Khan’s control while Munir Khan should remain as the head of the PAEC and remain focused on the plutonium route. This decision was clearly influenced by the strategic scientific elites. Munir may have initiated the base for the two projects but Khan’s expertise and role accelerated the process on the enrichment side which later contributed to Munir’s side of the project as well.

Nevertheless, when a new bureaucratic tussle started between these two high ranking scientists, Bhutto took the deliberate decision to let both programmes – both the uranium enrichment and the plutonium one – run competitively, which he calculated would speed up the overall result. According to Chakma, at this stage, ‘Pakistan aggressively initiated a different path to acquire nuclear raw materials and made arrangements to import uranium from abroad’.¹⁰⁶

Further to the development of the plutonium route, Pakistan had been able to secure a deal with Canada for a 137-megawatt pressurized heavy water CANDU reactor

¹⁰⁴ Ibid.

¹⁰⁵ Mulana K. Niazi, *aur line kut gari*, Chapter 9, ‘Unknown facts about the Reprocessing Plant’ (1987).

¹⁰⁶ Chakma, ‘Long Road to Chagai’, p.892.

(safeguarded) which was inaugurated in November 1972.¹⁰⁷ Munir Khan also tried to establish cooperation with the French firm SNG to acquire a reprocessing plant and with the Belgium firm Belgonuclear for a laboratory-scale reprocessing plant. He sent three scientists to Belgonuclear to obtain training on reprocessing technology. The Pakistan–French agreement for the reprocessing plant was finalised in October 1974 but was then delayed when the US and France put pressure on Pakistan to join the IAEA. However, Munir was subsequently ordered to sign the safeguards agreement that the reprocessing equipment or material would not be diverted towards military purposes, which helped Pakistan to finalise a trilateral agreement (Pakistan, France and the IAEA) in March 1976. But in August 1976 Pakistan was forced by the US to cancel the reprocessing deal with France. The US Secretary of State, Henry Kissinger, visited Pakistan on 8 August 1976 and asked Bhutto to drop the idea of a reprocessing plant in return for the purchase of 110 A-7 aircraft.¹⁰⁸ Kissinger also flew to France from Pakistan in order to stop the deal between Pakistan and France. It is important to note that Bhutto signed an important agreement with China in late May 1976,¹⁰⁹ on his visit to Beijing, his third since 1972.¹¹⁰ The Nuclear Cooperation Agreement was probably a continuation of a 30 July 1966 technical cooperation agreement. This 1976 agreement was one of the most important achievements of Bhutto’s presidency, and is sometimes seen as having opened the way for co-operation in the military sphere. On the Chinese side, however, the military and civilian agreements may have involved different bureaucracies. It is

¹⁰⁷ Andrew Koch and Jennifer Topping, ‘Pakistan’s Nuclear Weapons program: A Status Report’, *The Non-Proliferation review*, Vol.4, No.3 (1997).

¹⁰⁸ George Perkovich, ‘Could Anything be Done to Stop Them?’ in Henry D. Sokolski (ed.), *Pakistan’s Nuclear Future: Worries Beyond War*, (Strategic Studies Institute, 2008), p. 68.
<http://www.strategicstudiesinstitute.army.mil/pdf/files/pub832.pdf>

¹⁰⁹ Bhutto Zulfikar Ali, *If I am Assassinated* (Pakistan: Vikas, 1979), p.203.

¹¹⁰ In November 1970, Pakistani President Yahya Khan visited China. While in power, Z.A. Bhutto visited China three times respectively in 1972, 1974 and 1976. In November 1974, CAAC opened its Beijing–Karachi–Paris flight. After coming into power, Zia-ul Huq visited China in December 1977. Yaacov Vertzberger, ‘The Political Economy of Sino-Pakistani Relations: Trade and Aid 1963–82’, *Asian Survey*, Vol.23, No.5 (May, 1983).

possible that nuclear cooperation on both fronts proceeded in parallel, during a period when both Pakistan and China had few other friends. Nevertheless, when Zia ul-Haq seized power the Chinese ended this cooperation.¹¹¹ Work had also commenced on the Chashma reprocessing plant which was later abandoned in 1978 as a result of American pressure. Bhutto was allegedly threatened by the US authorities to halt the Chashma reprocessing plant or ‘we will make a horrible example of you’,¹¹² which Kissinger later denied,¹¹³ although, Benazir Bhutto has confirmed the existence of the threat.¹¹⁴ Bhutto later wrote from his death cell that, at the time of the consultation of the fuel reprocessing plant, Pakistan ‘was on the threshold of full nuclear capability. All we needed was the nuclear reprocessing plant’.¹¹⁵

After the cancellation of the deal with France, Pakistan began to acquire technology for a uranium enrichment plant using ultra high speed centrifuges. These plants had the capacity to produce enriched uranium, an alternative to plutonium, for nuclear weapons material. The construction of a pilot plant was started at Sihala in 1978, which started functioning in 1979 along with the construction of large scale facility at Kahuta.¹¹⁶ US concerns about nuclear proliferation heightened after the Indian nuclear explosion on the one hand and Pakistan’s reprocessing activities on the other. The Symington amendment was added to the International Security Assistance and Arms Export Act in 1976. Furthermore, these amendments also banned US assistance to any country (importer of unsafeguarded enrichment and reprocessing technology) in the economic and military sectors.¹¹⁷

¹¹¹ Ibid.

¹¹² Benazir Bhutto, *Daughter of the East* (London: Hamish Hamilton, 1988), p. 86; Christina Lamb, *Waiting For Allah, Pakistan’s Struggle For Democracy* (London: Hamish Hamilton, 1991), pp. 38, 82.

¹¹³ Rehman, *Long Road to Chagai*, p.101.

¹¹⁴ Ibid.

¹¹⁵ Bhutto, *If I am Assassinated*, pp.137–8. Zulfikar Ali Bhutto was executed on 4 April 1979.

¹¹⁶ L.S. Spector and J.R. Smith, *Nuclear Ambitions: The Spread of Nuclear Weapons, 1989–1990* (West View Press, 1990), p.91.

¹¹⁷ Ahmed, ‘Pakistan’s Nuclear Program’, p.184.

On the uranium side, Samina Ahmed notes that A.Q. Khan had stolen blueprints from the Almelo ultracentrifuge UE plant in the Netherlands.¹¹⁸ Malik states that Khan 'purchased and imported the necessary equipment from all over the world. Side by side, Khan prepared the details of the experimental plant and the blueprints of the plant at Kahuta.'¹¹⁹ Major components required for the enrichment project from European firms were inverters, high-vacuum valve scoops, pre-forms, and bottom bearing pre-forms. Subsequently, advances of centrifuge technology into P-2 required maraging steels in large quantity. At the same time components were also sought for the plutonium programme such as hot cell manipulators, reprocessing equipment, uranium yellow cake, uranium hexafluoride and tritium and their metals as part of the import programme. It is important to note that ERL enriched gaseous uranium hexafluoride into weapons-grade material. The rest of the process mining to yellowcake to gasification and back again from gas to metal to milling and weapons fabrication was under the control of the PAEC.

Centrifuge manufacturing was the key element of the enriched uranium project which was made possible by A.Q. Khan. However, Khan himself was not a bomb designer, but a metallurgist. Rehman maintains that Pakistan started centrifuge manufacturing based on Dutch designs which were replaced with powerful and bigger long diameter centrifuges of German design.¹²⁰ Indeed, Khan acquired components from dozens of companies from different countries. Malik states that one such state was Switzerland. When the US pressurized Switzerland for violating the NPT the Swiss government announced that the deal with Pakistan was according to the laws of the land.¹²¹ When it tried to do the same to states such as Turkey, Germany and others not

¹¹⁸ Ibid.

¹¹⁹ Malik, *Dr. A.Q. Khan and The Islamic Bomb*, p.75.

¹²⁰ Reman, *Road to Chagai*, p.57.

¹²¹ Malik, *Dr. A.Q. Khan and The Islamic Bomb*, p.75.

to supply such sensitive technology, the states concerned responded that their local companies functioned within the framework of the law and could not be subjected to more pressure.¹²² Around seventy German firms are believed to have supplied components and material to Pakistan.¹²³ The required technology was dual use and all the firms and companies were making financial profits by selling on this technology. These examples of technology sales to Pakistan demonstrate the relevance of the parochial interest model and the inability of international institutions to control Pakistan's actual behaviour.

By March 1979, Pakistan faced new challenge when the CIA informed the US government that Pakistan was busy on a centrifuge plant to produce weapons grade uranium. Britain and the USA tightened their export regulations. When the CIA, in coordination of other intelligence agencies, prepared a report on Kahuta, Malik reveals that Pakistan had already acquired all the material and components needed for the enrichment plant. The export control policies were weak, security at the global level was lax and the dual use technology which Pakistan acquired was not covered by the Zangger Committee or the NSG's list. Riffat Hissain, Hans Blix, James Acton and others interviewed for this study admitted that there were variations and loopholes in the global non-proliferation system, export controls were lax and Khan took benefit of this.

Khan stated that

it was not possible for us to make each and every piece of equipment or component within the country. Attempts to do so would have killed the project in the initial stage. We devised a strategy by which we would go all out to buy everything that we needed in the open market to lay the foundation of a good infrastructure and would then switch over to indigenous production as and when we had to.¹²⁴

¹²² Ibid.

¹²³ Corera, *Shopping for Bombs*, pp.35–36.

¹²⁴ Quoted in Malik, *Dr. A.Q. Khan and The Islamic Bomb*, p.85.

He further stated, ‘my long stay in Europe and intimate knowledge of various countries and their manufacturing firms was an asset. Within two years we had put up working prototypes of centrifuges and were going at full speed to build the facilities at Kahuta.’¹²⁵ When interviewed, General Ehsan revealed that it was lust for money and greed which made foreign firms sell dual use technology to Pakistan. Khan states:

we received many letters and telexes and people chased us with figures and details of equipment they had sold to Almelo, Capenhurst etc. They literally begged us to buy their equipment. We bought what we considered suitable for our plant and very often asked them to make changes and modifications according to our requirements. One should realise that all this equipment was, what we call, conventional technology. It was normal chemical process and vacuum technology equipment which had a thousand and one uses in other disciplines.¹²⁶

Indeed, ‘almost all the equipment in Kahuta was imported from Europe’.¹²⁷ Khan had full authority, independently, to import the required technology to complete his goal by building centrifuges at the Khuta Plant. Furthermore, lax security at the FDO, loopholes and inadequate guidelines of the London Club and inadequate export regulations gave Khan a capability to reach the international market for making any necessary purchases. Khan was staying ahead of Western export control laws, in order to circumvent export restrictions and was able to procure much needed technology and components from the international market.

Pakistan started critical research led by a theoretical physics group to work on the actual design of the bomb. They started exploring the existing literature. The defence report reveals that this group after their hard work came up with a bomb design that was to be manufactured.¹²⁸ At the same time, the report reveals that a bomb manufacturing facility was set up led by a strong team of engineers, physicists, and

¹²⁵ Ibid.

¹²⁶ Ibid., p.96.

¹²⁷ Corera, *Shopping for Bombs*, p.22.

¹²⁸ “PakDef E-Reporter, Pakistan Military Consortium”, p.52.

electronic and chemical engineers. Dr. Riaz-ud-Din had already travelled in 1973 to the ICTP in the US to learn through open source information about the Manhattan Project, from the Library of Congress and National Information Centre, Maryland. He later joined the team who worked on the Pakistan nuclear explosive device. He later stated,

we were the designers of the bomb, like the tailor who tells you how much of the material is required to stitch a suit. We had to identify the fissile material, whether to use plutonium or enrichment uranium, which method of detonation, which explosive, what type of tempers and lenses to use, how material will be compressed, how shock waves will be created, what would be yield?¹²⁹

On the plutonium side, KANUPP required a major power plant under IAEA safeguards, which initially used Canadian fuel. After Canada suspended nuclear fuel exports in 1976, the PAEC explored provision of its own fuel. Later IAEA imposed an additional safeguards measure on Pakistan's KANUPP reactor by the early 1980s. However, Rehman maintains that before France broke from the deal (1978), Pakistan had received about 95 percent of the blueprints regarding the reprocessing plant.¹³⁰ Moreover, Munir was able to obtain civil work for the pilot reprocessing plant with the help of United Kingdom Atomic Energy Agency (UKAEA). Munir also succeeded in acquiring material and parts for the pilot scale reprocessing plant at PINSTECH which was established in 1982 for the purpose and which was later called the 'New Lab'.¹³¹

General Zia gained power through a military coup in July 1977. He forwarded Bhutto's nuclear policy and obtained a nuclear bomb for Pakistan. He played a very skilful role by adopting Pakistan's strategic posture of 'nuclear ambiguity'. Zia had faced difficult pressures from the West to abandon its nuclear programme. Pakistan suffered economic sanctions from Washington in 1977 and 1979 when the Glenn and Symington amendments sought to force Pakistan to discontinue its nuclear development

¹²⁹ Rehman, *Long Road to Chagai*

¹³⁰ Ibid., p.33

¹³¹ Ibid. p.37

efforts. After the Indian nuclear explosion, the Western countries tightened their export control policies and placed restrictions on nuclear export technology and material, which had implications even for Pakistan's nuclear programme of import technology for peaceful purposes. The most important effort introduced by the Western states was the NSG which sought to revisit export policies and the supply of nuclear technology and equipment to non-nuclear states. This effort stopped Pakistan's direct access to the western nuclear market with regard to technology and related material.

Zia was fortunate that from 1979 American strategic priorities shifted and Pakistan's assistance was sought as a front line state against the Soviet occupation of Afghanistan. Thus, halting proliferation became less of an American priority and Pakistan was less hampered by US-imposed sanctions. In 1982, the US and Pakistan signed an economic and military incentive package of 3.2 billion dollars. In January 1982, the CIA knew that 'Pakistan will have nuclear capability to detonate a device within three years'. But it estimated that Pakistan would choose not to do so because of Zia's unwillingness to lose the Reagan administration's six-year \$3.2 billion military and economic aid program.¹³² It is argued in this study that the US deliberately and visibly subordinated non-proliferation policy to Afghan policy when Pakistan was sliding over the threshold of nuclear weapons possession. The evidence shows that Pakistan was firmly committed to expanding its nuclear weapons stockpile and not to alter its ambiguous nuclear status to counter the Indian threat.

In the same year Pakistan was able to receive a small-scale reprocessing laboratory from Belgium.¹³³ Samina Ahmed maintains that Pakistan explored further existing loopholes in the western European legislation to acquire enrichment uranium

¹³² 'Case Studies in Sanctions and Terrorism', Peterson Institute of International Economics, <http://www.iie.com/research/topics/sanctions/pakistan3.cfm>

¹³³ Rehman, *Long Road to Chagai*, p.13.

technology along with needed equipment from Germany and the Netherlands.¹³⁴ At this stage Pakistan also acquired help from China in the context of nuclear know-how and hardware for the purpose of countering the Indian threat.¹³⁵ Samina Ahmed notes that China provided Pakistan with weapons grade uranium, technical information on uranium enrichment, help in setting up the Kahuta ultracentrifuge uranium enrichment plant, which became operational in the mid-1980s.¹³⁶ At the same time, work continued on a second uranium enrichment plant, and a uranium hexafluoride plant was set up at Dera Ghazi Khan, Punjab.¹³⁷ The suspension of the reprocessing contract with France in 1978 made the PAEC develop its own plutonium reactor at Khushab¹³⁸ in the mid-1980s which was an indigenous effort of the PAEC. It is important to note that before the French suspended this reprocessing contract, the French SNG transferred '95 percent of the drawings and other technical details of the plant at PAEC'.¹³⁹

While American attention continued to be diverted towards forcing the Soviets out of Afghanistan the Kahuta enrichment plant made good progress. By 1981, construction was completed and technicians were preparing large halls for thousands of centrifuges.¹⁴⁰ A.Q. Khan informed Gen. Zia that he had successfully enriched a small sample of uranium to weapons grade so as to be able to manufacture a nuclear bomb. General Zia paid an unscheduled visit to Kahuta:

He was expecting a school chemistry lab and there was a plant filled with fully functioning Western-style laboratories, cascades of gleaming centrifuges humming away in glass chambers all being monitored by scientists in pristine white coats. Nothing like this had ever been done in Pakistan before. I remember the look on his face. He was like, 'This is an empire'. He was overwhelmed.¹⁴¹

¹³⁴ Samina Ahmed, 'Pakistan's Nuclear Program' p.186.

¹³⁵ Ibid.

¹³⁶ Ibid.

¹³⁷ Ibid.

¹³⁸ The Khushab reactor was initiated in 1986 as a source of plutonium and tritium, completed in 1996 and started functioning in 1998.

¹³⁹ "PakDef E-Reporter, Pakistan Military Consortium", p. 44.

¹⁴⁰ Douglas Frantz and Catherine Collins, *The Nuclear Jihadis* (New York: Twelve, 2007), p.111.

¹⁴¹ Quoted in Levy and Clark, *Deception*, p.84.

A public ceremony honoured the achievement and Zia renamed the plant the A. Q. Khan Research Laboratories. Khan was given full authority, and specially authorized by Zia to pursue the design of a device ready for a cold or simulated test. He was also granted further funds and asked to redouble his efforts.¹⁴²

The CIA also learned about Zia's instructions of May 1981 to Khan regarding cold tests and the Reagan administration struggled to find evidence of Khan's development of a bomb design. US scientists at Los Alamos revealed Pakistan's links with China for its final tests. 'China has provided assistance to Pakistan's program to develop a nuclear weapons capability.'¹⁴³ However, no clear evidence shows that China had provided Khan with any samples of weapons grade enriched uranium to fuel a nuclear bomb. There may be a possibility that China provided some assistance to resolve some of the problems at the stage when Khan's enrichment cycle had been refined. The US State Department however believed that China may have assisted Pakistan in 1983 to solve some of the difficulties it faced in mastering enrichment technology, and possibly helped in nuclear-device design.¹⁴⁴ It is also claimed that 'China may have supplied uranium hexafluoride and HEU to Pakistan'.¹⁴⁵ No firm evidence has so far proven the existence of such deals. There is also speculation that a bomb design was obtained from China, but again there is no conclusive proof. Pakistan reached an agreement with China on 15 September 1986 for the peaceful uses of nuclear energy and an understanding was also reached to design, construct and operate a nuclear power reactor.¹⁴⁶

¹⁴² Ibid., p.85.

¹⁴³ Ibid., pp.94-95.

¹⁴⁴ 'Nuclear Black Markets', IISS Dossier, p.26.

¹⁴⁵ David Albright and Mark Hibbs, 'Pakistan's Bomb: Out of the closet', *Bulletin of the Atomic Scientists*, Vol.48, No.6, (July-August 1992). Also see, http://people.reed.edu/~ahm/Courses/Stan-PS-314-2009-Q1_PNP/Syllabus/EReadings/AlbrightHibbs1992Pakistans.pdf

¹⁴⁶ 'Pakistan, China Sign Cooperation Agreement,' *The Pakistan Times* (21 September 1986). Also NTI Nuclear and Missile Developments, 21 September 1986. http://www.nti.org/e_research/profiles/Pakistan/Nuclear/5593_6294.html

In the early 1980s, construction started on a 'New Lab' at PINSTECH Complex near Rawalpindi. This was based on the design provided by France and used equipment supplied by many states. The Lab required many years to separate enough plutonium to manufacture nuclear weapons but it was designed to allow for the expansion of its reprocessing capacity.¹⁴⁷ Gen. Zia disclosed in 1981 that Pakistan had established a centrifuge uranium enrichment facility, and Pakistan was extracting uranium from the North West Frontier Province (NWFP) region; further processing of uranium had also been under process by other means.¹⁴⁸ It is important to note that the PAEC and KRL were working on the plutonium and uranium routes respectively. The PAEC had claimed that its design was ready in 1983 and its first cold test had been conducted in March that year. KRL also conducted its first cold test by the end the 1983 or March 1984.¹⁴⁹ A.Q. Khan also announced in 1984 that 'Pakistan was behind India in nuclear technology [but] that it has superseded India in uranium enrichment technology... Pakistan would not cross the 5 percent enrichment level'.¹⁵⁰ When interviewed in 2009, General Ehsan stated that both KRL and the PAEA played their own distinctive parts in the development of Pakistan's nuclear weapons programme. It was a team effort including thousands of the people from the planners, leaders, workers, engineers, technicians and scientists.

For his part when interviewed in the same year, Hans Blix stated that 'initially the IAEA was satisfied with Pakistan's cooperation but it could not guarantee that there was no diversion [of fissile materials] from KANUP which was brought under

¹⁴⁷ Albright and Hibbs, 'Pakistan's Bomb: Out of the Closet'.

¹⁴⁸ Quoted in Akhtar Ali, *Pakistan's Nuclear Dilemma, Energy and Security Dimensions*, p.61.

¹⁴⁹ PAEC also claimed that its design was ready by March 1983 while KRL was having difficulty and was assisted by Lt. General Naqvi, Presidential Advisor and coordinator for nuclear affairs. Contrary to this, A.Q. Khan has claimed that General K.M. Arif made copies of its KRL design and passed them on to the Chairman, PAEC. Shahid-ur-Rehman, 'Road to Chagai'.

¹⁵⁰ Nawa-I-Waqt, Lahore (9 February 1984). Also see Nuclear chronology, Pakistan profile published by Nuclear Threat Initiative (NTI): http://www.nti.org/e_research/profiles/pakistan/nuclear/5593_6277.html

safeguards. The fact that neither India nor Pakistan joined the NPT or accepted the safeguards, that alone was a danger signal. More could have been done, but we failed at that time.’¹⁵¹ It was difficult to deal with problematic states such as India and Pakistan.¹⁵² Blix’s statement reinforces the point that the neo-liberal approach failed in the 1980s and cooperation through institutions became difficult. Because of Pakistan’s security requirements it was obliged to adopt policies in the 1980s which accord most fully with the principles elucidated by realist theorists.

In July 1984 a group of developed states including Australia, Belgium, Canada, FRG, France, Italy, Japan, the Netherlands, Sweden, Switzerland, the US and the UK sat together in Luxembourg to discuss non-proliferation topics. The conditions for nuclear supply and export controls were highlighted and the group introduced no favourable outcomes. The NPT review conference also introduced no changes to the NSG guidelines until 1985. Thus, in 1987, the US, Canada, France, Germany, Italy Japan and the UK announced a new set of export controls guidelines under an agreement called the Missile Technology Control regime (MTCR). The MTCR guidelines were designed to control the export of technology destined for the construction of nuclear-capable missiles. The common export restrictions for missile-related technologies were complete rocket systems which were capable of delivering a 500-kilogram payload to a range of 300 kilometres and dual-use technologies such as propellants, missile computers, test facilities and structural materials.

The mid-1980s is an important period in order to ascertain the effectiveness of US-led non-proliferation policies. The Reagan administration bypassed the Solarz Amendments in 1985. These provided for the prohibition of military and economic aid to non-nuclear weapons states that might import nuclear commodities from the US for

¹⁵¹ Hans Blix, Interview (2009).

¹⁵² Ibid.

explosive use. The US also bypassed the Pressler Amendment which was introduced by the Congress in 1985 to enhance anti-proliferation legislation against Pakistan. At a later stage, Pakistan's small centrifuge facility started its construction at Golra in 1987. Chakma writes that Pakistan crossed the nuclear threshold in 1987, while in order to secure its interests in Afghanistan both President Reagan and Bush certified between 1987 and 1989 that Pakistan did not possess a nuclear capability.¹⁵³

President Zia once again disclosed that Pakistan possessed the capability to build a nuclear bomb whenever it wished.¹⁵⁴ He went further in July 1988, mentioning for the first time the phrase 'nuclear deterrence'. It is important to note that in March 1988 Pakistan had enriched uranium for 4–6 nuclear weapons.¹⁵⁵ In December 1988, Pakistan had developed the capability to produce weapons grade plutonium and possessed the capacity to manufacture 2–3 weapons on an annual basis at its Kahuta uranium enrichment plant.¹⁵⁶ The PARR II 20-kilowatt research reactor was established in Rawalpindi in 1989. By the early 1990s, the West realized that there was a need to tighten export control regulations significantly. Continuing US military and economic assistance included the F-16 fighter bomber which provided a potential delivery system for Pakistan's future nuclear arsenal.¹⁵⁷ The US only re-imposed anti-proliferation legislation on Pakistan after the Soviet withdrawal from Afghanistan when the Americans had recognized that Pakistan had 'crossed the Rubicon and acquired its nuclear capability'.¹⁵⁸

¹⁵³Chakma, 'Road to Chagai'.

¹⁵⁴Ibid.

¹⁵⁵Hedrick Smith, 'A Bomb Ticks in Pakistan', *New York Times* (6 March 1988).

<http://www.nytimes.com/1988/03/06/magazine/a-bomb-ticks-in-pakistan.html?pagewanted=1>

¹⁵⁶Spector and Smith, *Nuclear Ambitions*, pp.97-101.

¹⁵⁷Ahmed, 'Pakistan's Nuclear Program', p.187.

¹⁵⁸Riffat Hussain, Interview (2009).

Conclusion: Regime theory – Models and Pakistan’s normative behaviour

Two crucial factors, the 1971 war and the Indian PNE of 1974, set Pakistan formally on the road to nuclear weapons development. The decision of the Pakistani elite at this stage was not by choice but by compulsion, driven by the security environment. All the Pakistani officials who have been interviewed for this research (listed in annex I) reject the idea that it was simply an elite decision; they equally maintain that Pakistan’s nuclear weapons programme is security driven.

Thus, the argument here is that Pakistan’s security environment was defined clearly by its inherited strategic culture linked to Indian behaviour (historic rivalry, defence expansion and its behaviour as the hegemonic regional power). The structural incentives for Pakistan to build up its nuclear weapons are mainly explained either by the compulsion of the regional strategic environment – perceiving an existential threat to its security, survival and the failure of global cooperation – or by the role of international institutions. Hyde-Price states that security competition can never be eliminated when fear is pervasive in an anarchic system.¹⁵⁹ Though in this study South Asia is not interpreted as truly anarchic in realist terms, fear does exist in the region due to India’s hegemonic role. Therefore, Pakistan clearly aimed to maximise its relative power position in the system. Sagan, a neo-liberal in Security Model terms¹⁶⁰ rightly leads with realist arguments here, contending that states build nuclear weapons to increase national security against foreign threats, especially nuclear threats. For Waltz, states fear an adversary which already has nuclear capability or states fear an adversary’s future strength in conventional weapons; sometimes a state finds a cheaper way to continue a conventional arms race and protect its real economy. This latter

¹⁵⁹ Hyde-Price, *European Security in the Twenty-first Century*, pp.30-32.

¹⁶⁰ Sagan, ‘Why Do States Build Nuclear Weapons?’, p.55.

aspect of the model perfectly fits the case of Pakistan. Thus, Davis argues, a nation such as Pakistan, which considers nuclear weapons essential for its survival ‘will not be deterred by the unenforced norm of non-proliferation’.¹⁶¹ He further believes that ‘calculations based on the security/power dilemma suggest that noncompliance with the regime (NPT) will in nearly all cases result in a net loss of security; and this provides the incentive to cooperate with other states in the non-proliferation regime.’¹⁶²

This study maintains that the failure of global institutions and the non-proliferation regime and its taboos and norms to shape Indian nuclear behaviour re-defined Pakistan’s security in the direction of acquiring nuclear weapons. The powerful states did not maintain their agreements on the set norms by moving forward towards disarmament and thereby allowed India to go nuclear.¹⁶³ On the question of norms violation, General Ehsan argues that ‘the higher morality is self-survival.’¹⁶⁴ This is why neo-realists have no belief in the role of ethics in the decision-making process. Thus, realism dominates the regional scenario: when states are faced by an existential threat, norms and institutions lose their relevance. A state may be obliged to act in self-help terms and acquire nuclear weapons for its survival in a semi-anarchic system in which the role of morality seems constrained.

With regard to Indian developments, *the domestic politics model* perfectly fits with the Indian nuclear weapons case. The rationale and dynamics behind India’s struggle for international recognition and the strong, obsessive sensitivities of India’s strategic elite with regard to perceived acts of discrimination or ignorance by the West or toward their country eventually led India to the decision to build a bomb. Thus, the contention is that Indian nuclear policy-making was not directly related to security but

¹⁶¹ Zachary S. Davis, ‘The Realist Nuclear Regime’, in Davis and Frankel, (eds.), *The Proliferation Puzzle*, p.82.

¹⁶² Ibid., pp.81–86.

¹⁶³ Riffat Hussain, Interview (July 2009).

¹⁶⁴ General Ehsan, Interview (2009).

originated from distinct values attributed to the possession of nuclear weapons. These values are based upon the country's prestige and country's standing within the international community of states. These intangible motives behind Indian nuclear behaviour stem from the strategic elite's perception of the international nuclear order. Furthermore, 'elements of the Indian scientific community rather than the Indian military are believed to have led the push for India's nuclear weapons program to show [w]hat they could [do]'.¹⁶⁵ This scenario shows the relevance of the normative model, hand-in-hand with the domestic political model in the case of India.

In sum, this phase provides support to realist arguments. Power and state interest remained dominant. Taboo norms could not shape the non-proliferation system, since the NPT was overlooked by the Indians who considered it to be a discriminatory regime. The Indian status-oriented behaviour ultimately shaped Pakistan's nuclear behaviour.

¹⁶⁵ Brown, 'New Nuclear Realities'.

Chapter Three

Pakistan's Nuclear Behaviour in Crisis Situations: From Non-Weaponized Deterrence to Weaponized Deterrence (1986–1999)

Introduction

This chapter evaluates Pakistan's nuclear behaviour from 1986 until 1999. It shows how the concept of nuclear deterrence, first introduced in the Pakistan context by General Zia in July 1988 was subsequently utilized. The study assesses three crises – Brasstacks (1987), the Kashmir conflict (1990) and Kargil (1999) – to evaluate Pakistan's nuclear behaviour in crisis situations. Before the 1998 tests in South Asia, there was no strategic transparency and the nuclear use option was covert. Each side knew that the other had separated warheads which could be assembled and mated to aircraft with the intention of a nuclear strike mission. This debate creates an interesting puzzle. For example, how do new NWS deter aggression when they deny the deployment of their nuclear weapons and adhere to a covert position in their nuclear modernization? What was Pakistan's actual behaviour towards the use or non-use of nuclear weapons on the one hand and global non-proliferation developments on the other? Second, India and Pakistan carried out nuclear tests in 1998 representing steps in nuclear weaponization, depriving the NPT of universality and disregarding established nuclear taboos. Both states declared postures of 'minimum nuclear deterrence'. The chapter therefore assesses the compulsions for both India and Pakistan to go for weaponized deterrence or overt nuclearization. Regime theory and the other three relevant approaches will be used to help in understanding this proliferation puzzle in the semi-anarchic region of South Asia.

Understanding a Regional Environment in Crisis Situations

Before proceeding, it is important to clarify basic concepts and terminologies involved in this chapter.

Security dilemma: is defined as

a two-level strategic predicament in relations between states and other actors [...]. The first and basic level consist of a dilemma of interpretation about the motives [...], the second and derivative level consist of a dilemma of response about the most rational way of responding.¹

Deterrence: the concept of nuclear deterrence is defined by Glenn Snyder as ‘the power to dissuade’.² For Alexander George and Richard Smoke, it is ‘simply the persuasion of one’s opponent that the costs and/or risks of a given course of action . . . outweigh its benefits’.³ According to Thomas Schelling deterrence is ‘a threat . . . intended to keep an adversary from doing something’.⁴ ‘Nuclear deterrence is using the threat of nuclear attack to dissuade.’⁵ Deterrence depends on the ‘adversary’s perception of one’s capabilities and one’s resolve to use them’.⁶ According to realist views, deterrence prevents war between nuclear-armed states and stabilizes the nuclear-armed regions.

Deterrence can be categorised as Non-Weaponized Deterrence (NWD) or Weaponized Deterrence (WD).

¹ Philip Schweers, ‘India and Pakistan: Trapped in a Security Paradox’, *Duesseldorf Institute for Foreign and Security Policy*, No.37 (December 2003), p.2.

² Glenn H. Snyder, ‘Deterrence and Defense’ in Robert J. Art and Kenneth N. Waltz (eds.), *The Use of Force: International Politics and Foreign Policy* (New York: University Press of America, 1983), p.129.

³ Alexander George and Richard Smoke, *Deterrence in American Foreign Policy: Theory and Practice* (New York: Columbia University Press, 1974), p.11.

⁴ Thomas C. Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 1966), p.69.

⁵ Devin T. Hagerty, ‘Nuclear Deterrence in South Asian: the 1990 Indo-Pakistani Crisis,’ *International Security*, Vol.20, No.3 (Winter 1995) <http://www.mtholyoke.edu/acad/intrel/sasianuk.htm>

⁶ Ibid.

Non Weaponized Deterrence: NWD can happen when (a) a country is one or several ‘screwdriver turns’ from being weaponized or (b) it keeps its nuclear warheads separated from its delivery systems.⁷

Opaque Nuclear proliferation: Opaque proliferation is a related term which means that states pursue nuclear capabilities to have deterrent effects on adversaries. Nuclear deterrence under opacity is called ‘existential deterrence’ (ED) by Devin T. Hagerty, borrowing from McGeorge Bundy’s work. In opaque nuclear proliferation, ED has even greater effects. Hagerty supports this argument, considering that ‘since each side in an opaque nuclear arms competition has only limited information about the other side’s nuclear forces, any deterrence derived from nuclear capabilities will logically be existential’.⁸ Opacity thus promotes extreme caution. In opaque situations nuclear forces have less attractive targets for a first strike than in a transparent one because they are shrouded in ambiguity and secrecy. Opaque proliferation poses these questions:

- *How many weapons does the opponent possess?*
- *Are they assembled?*
- *Where are they located?*
- *Are they mobilised or hidden?*
- *Which are real weapons and which are dummies?*
- *If the weapons are unassembled, where are the various components stored?*

Existential deterrence: ED works when two states have less potent capabilities, depending on survivability not size. In the South Asian case, which inherited

⁷ Carranza, *South Asian Security and International Nuclear Order*, p.21.

⁸ Hagerty, ‘Nuclear Deterrence in South Asia’, <http://www.mtholyoke.edu/acad/intrel/sasianuk.htm>

one of the world's highest population densities, a small fission weapon would bring huge loss of human life. For Hagerty in opaque proliferation, the proliferant can deter aggression without overt demonstration and the existence of direct nuclear threats through a process of strategic bargaining (communication from negotiations to transmission of intentions) to tactical bargaining (communication is either impossible or incomplete).⁹

Weaponized Deterrence: WD is defined as 'the process of developing, testing and integrating warhead components into a militarily usable weapons system...'¹⁰ It requires weapons tests. Arguably, weaponized nuclear deterrence modifies anarchy by preventing war in certain circumstances between recently nuclearized states. How far this concept is relevant to the South Asian case, is discussed below.

The logic of nuclear proliferation is highly dangerous. For pessimists, if more states get hold of nuclear weapons this increases the chance of nuclear explosions, intentionally or unintentionally. At the same time, the logic of nuclear deterrence refutes this concept and indicates that nuclear weapons proliferation has stabilizing effects and that the possession of nuclear weapons prevents war and will stay relevant in the long run (the 'proliferation optimists' view). This chapter develops this debate by taking the logic of nuclear proliferation that 'more may be worse' as highlighted by Sagan, a neo-liberal, and the logic of nuclear deterrence that 'more may be better' as highlighted by Kenneth Waltz, a realist. The argument in this chapter does not refute the logic of nuclear proliferation. Instead it is suggested that the logic of nuclear deterrence is more robust in the South Asian context than the logic of non-proliferation. The study leads with the argument of the optimists, such as Waltz, that nuclear weapons have had a

⁹ Thomas C. Schelling, *The Strategy of Conflict* (Oxford University Press, 1963), p.53.

¹⁰ Carranza, *South Asian Security and International Nuclear Order*, p.21.

deterrent effect in the region. Hagerty also maintains that in South Asia ‘the logic of nuclear deterrence has been closer to the mark than the logic of non-proliferation’.¹¹

Thus, the chapter debates the logic of nuclear deterrence and logic of non-proliferation in the context of pre-emptive escalation between new nuclear powers. It analyses the influence of opacity on the concept of crisis stability, a concept which is either misunderstood or underestimated. Hagerty maintains that the prospects of pre-emptive attack between new nuclear states are low while opacity makes them more remote.

Pakistan’s actual nuclear behaviour in crisis situations

Pakistan and India fought three full-fledged conventional wars in 1948, 1965 and 1971 when neither state had nuclear capacities. After the Indian PNE of 1974, Pakistan’s policy towards nuclear weapons changed and subsequently Pakistan acquired a nuclear capability by mid-late 1980s to counter the emerging threat from India. India then started gearing up its missile programme, which had started in the mid-1960s. In the 1970s it began to convert AS-2s into surface-to-surface missiles. In the 1980s, India embarked upon a military missile programme known as the Integrated Missiles Development Programme (IGMDP).¹² India sought to develop five different missiles over a ten-year period – Trishul (a short range surface to air missile (SAM)); Akash (a medium-range SAM); Nag (an anti-tank guided missile (ATGM)); Prithvi (a short-range battlefield support missile); and Agni (a medium-range ballistic missile (MRBM)). India not only initiated a missile race in the region but also brought the

¹¹ Hagerty, ‘Nuclear Deterrence in South Asia’.

¹² Vinay Kumar Malhotra, ‘Nuclear and Missile Race in South Asia: Relevance of Military Restructuring’, A Project completed with assistance from and at the Copenhagen Peace Research Institute, Copenhagen, Denmark, p.18. www.diis.dk/graphics/COPRI_publications/COPRI.../19-1999.doc

region close to the brink of war in 1986-7. It tried to test the ambiguity and secrecy of Pakistan's nuclear weapons development in opaque proliferation by initiating the Brasstacks exercise.

Brasstacks (1986-87)

'Brasstacks' was a large-scale Indian military exercise which began in November 1986 and was followed up to December in same year with an offensive operation in a mobile battleground environment. This operation¹³ continued until mid-1987. The largest Indian manoeuvres took place in the deserts of Rajasthan (one hundred miles from the Pakistani border) instead of in the sensitive regions of Kashmir; but this served only to heighten the fear in Pakistan that India was planning to invade and destroy its nuclear facilities.

Sagan believed that the Indian Army general Krishnaswami Sundarji initiated the Brasstacks exercise,

in hope of provoking a Pakistani military response, which could then provide India with an excuse to implement existing contingency plans to go on the offensive against Pakistan and to take out the nuclear [programme] in a preventive strike.¹⁴

Indeed, 'Sundarji had a plan to provoke Pakistan into war'.¹⁵ Sundarji himself stated that 'the Brasstacks crisis was the last all-conventional crisis in which India could

¹³ 'India used Brasstacks to provoke Pakistan into war. It was to begin with a feigned attack [at the Pakistani side of Kashmir]. But the real plan was to attack Pakistan's Punjab and cut off its access to Sindh. The objective was to pulverise Pakistan before its nuclear capability matured and made it nearly impossible for India to wage a massive conventional battle without risking an atomic war.' P. R. Chari, 'Nuclear Crisis, Escalation Control, and Deterrence in South Asia', working PAPER, Version 1.0, *The Henry L. Stimson Centre*, 2003, p.15.

¹⁴ Peter D. Feaver, et al., 'Proliferation Pessimism', *International Security*, Vol.22, No.2 (Fall 1997), pp.195-6. Also in Varun Shani, 'A Dangerous Exercise: Barrasstacks as non-nuclear near-war', in Ganguly and Kapur (eds.), *Nuclear Proliferation in South Asia: Crisis Behaviour and the Bomb*, p.34.

¹⁵ Quoted in Shani, 'A Dangerous Exercise: Barrasstacks as non-nuclear near-war', p.25.

have used its conventional superiority to destroy Pakistan's conventional and nuclear weapons capability'.¹⁶

In response, Pakistan mobilized its own forces near the Indian state of Punjab and issued commands to his armoured units to move to the front lines. After mobilization and counter-mobilization, an exchange of fire between troops in Kashmir took place. By mid-January, both the states' armies were facing each other on the frontiers. This crisis was further heightened by the risk of misperceptions and the lack of communication between the two governments. There was a total lack of contact between the chiefs of the two states' armed forces between mid-December 1986 and 23 January 1987, and the Pakistani authorities had not been adequately informed regarding the Brasstacks exercise. Each state's perception regarding the other's intentions reached dangerous heights. The Pakistani perception of a threat to its existence increased the chances of a conventional war in an era when both states had achieved a level of NWD or ED.

Carranza believes that, '[w]hen the crisis began India had already crossed the nuclear weapons threshold'.¹⁷ With regard to Pakistan, US intelligence reported that it had started producing weapons grade uranium by 1986 and by January 1987 it would have highly enriched uranium – enough weapons grade material to build two or three nuclear weapons.¹⁸ Pakistan's former Foreign Secretary Abdul Sattar said, 'Pakistan's nuclear capabilities had not yet "flowered"' by the time of Brasstacks. They were, he said, 'nascent', but 'not yet actual'.¹⁹ The Indian perception of Pakistan's capabilities

¹⁶ Quoted in Waheguru Pal Singh Sidhu, 'India's Nuclear Use Doctrine', in Peter R. Lavoy, Scott D. Sagan and James J. Wirtz (eds.), *Planning the Unthinkable: How New Powers Will Use Nuclear, biological and Chemical weapons* (Ithaca and London: Cornell University Press, 2000), p.136.

¹⁷ Carranza, *South Asian Security and International Nuclear Order*, p.28.

¹⁸ Ibid., pp.28–29.

¹⁹ Quoted in Hagerty, 'Nuclear Deterrence in South Asia: the 1990 Indo-Pakistani Crisis'.
<http://www.mtholyoke.edu/acad/intrel/sasianuk.htm>

was that it 'had not [yet] weaponized'.²⁰ Based on the assumptions of the optimists, Sagan considers that new nuclear weapons states' small arsenals can be controlled by small organizations and they can achieve a second strike capability through simple concealment strategies. If small states possess small arsenals, they do not require advanced technology.²¹ During this crisis, A.Q. Khan declared in an interview on 28 January 1987 to an Indian journalist that speculation about Pakistan possessing the bomb was correct, and boasted that nobody should have doubts in Pakistan's capabilities nor could anyone 'undo' Pakistan. He further asserted, 'we shall use the bomb if our existence and sovereignty is threatened'.²² Some believe that the Khan interview transmitted signals to India that Pakistan had enriched uranium. It can be argued that this message was intentional, based on the fact that deterrence only works when you have deterrence value. To enhance the value of deterrence, some of the ambiguity has to be unveiled. Khan's action was presumably based on the fact that a third party, the US, had not transmitted Pakistan's deterrence capability to India. Keeping the Brasstacks crisis in view, Carranza maintains that if India and Pakistan were unable to transmit deterrence threats to each other and could not rely on the US for such transmission, this would have increased the danger of a nuclear accident or miscalculation.

In this semi-anarchic region neo-liberal and regime theory always take second place to realism. On 31 January 1987, both countries announced negotiations at a diplomatic level. On 4 February, the Indo-Pakistan consultation agreed to pull out troops deployed on the borders. After the settlement of this conflict on 3 March, Rajiv Gandhi told the Indian Parliament that India had the capacity to defend itself from a

²⁰ Ibid.

²¹ Quoted in Shani, 'A Dangerous Exercise', p.13.

²² Nayyar, 'Pakistan Has the Bomb', *Tribune* (1 March 1987). Also P. R. Chari, 'Nuclear Crisis, Escalation, and Deterrence in South Asia', p.15.

possible nuclear threat from Pakistan.²³ In Balochistan, Pakistan had the capability of assembling nuclear weapons but did not have any operative nuclear weapons programme.²⁴ Seymour Hersh has argued that the crisis carried nuclear risks.²⁵ Proliferation optimists, on the other hand, argue that the Brasstacks threat was overcome because of the fact that nuclear stability had arrived in the region and NWD and confidence-building measures (CBMs) worked. Pessimists believe that India sought to provoke a war against Pakistan, and that the crisis reached its point of greatest risk on 23 January 1987, after which the two countries made diplomatic moves aimed at de-escalating the conflict.²⁶

The argument in this study is that this was an era of NWD when both states had the requisite components along with the engineering expertise to assemble a nuclear weapon even at short notice.²⁷ Pakistan at that time tried to deter the adversary, for example, in March 1987 when President Zia stated that ‘Pakistan can build a [nuclear] bomb whenever it wishes. Once you have acquired the technology, which Pakistan has, you can do whatever you like’.²⁸ In response, the Indian Prime Minister Rajiv Gandhi said, ‘We intend meeting President Zia’s threat. We will give an adequate response.’²⁹ Shortly afterwards, in 1988, Zia declared, ‘The present programs of India and Pakistan have a lot of ambiguities, and therefore in the eyes of each other, they have reached a particular level, and that level is good enough to create an impression of deterrence.’³⁰

²³ Carranza, *South Asian Security and International Nuclear Order*, p.30.

²⁴ Qadar Bakhsh Baloch, ‘Pakistan’s Nuclear Deterrence: Decade of Perception and Misperceptions’, *Qurtuba University*, NWFP, Pakistan see: http://www.qurtuba.edu.pk/thedialogue/The%20Dialogue/1_4/2_US%20Pak_Major.pdf

²⁵ Seymour M. Hersh, ‘On the Nuclear Edge’, *The New Yorker* (29 March 1993). http://www.newyorker.com/archive/1993/03/29/1993_03_29_056_TNY_CARDS_000363214

²⁶ Carranza, *South Asian Security and International Nuclear Order*, pp. 27-30.

²⁷ George Perkovich, ‘A Nuclear Third in South Asia’, *Foreign Policy*, No.91 (1993), pp. 85–104.

²⁸ William R. Doerner, ‘Knocking at the Nuclear Door’, *Time* (30 March 1987). Chakma, ‘Long Road to Chagai’, p.901.

²⁹ Hagerty, ‘Nuclear Deterrence in South Asia’. <http://www.mtholyoke.edu/acad/intrel/sasianuk.htm>

³⁰ Ibid.

Hagerty later evaluated the South Asian states' nuclear balance in 1990 in the following terms:

India and Pakistan are currently capable of deploying small nuclear forces comprised of atomic bombs that could be delivered by advanced fighter-bombers, with India's capabilities being considerably greater than Pakistan. Neither country is believed to have integrated nuclear weapons into its military forces. However, it is possible that neither has manufactured complete nuclear devices.³¹

In contrast, Varun Shani considers that 'there was no nuclear dimension to Brasstacks [and that] it was self-evidently not a nuclear crisis because nuclear weapons' use was not a part of the strategic calculus of either side; the most that both countries possessed was a non-weaponized posture.'³² Riffat Hussain argues, however, that 'even though Pakistan went for overt weaponization only in 1998 it had acquired all the elements of the technological capability by 1983–1984'.³³ He reinforced the point by stating that in 1983 'we conducted the series of cold tests and that is documented, and these tests gave Pakistan a very high confidence to conduct hot tests. It was just a question of putting all the components together and testing the device which we did in 1998.'³⁴

This study argues that NWD had achieved a sufficient level during Brasstacks exercise to lead the two states afterwards to adopt a confidence building measure in 1988 of agreeing upon a prohibition of attacks on their respective nuclear installations and facilities.³⁵ However, it is argued that during the Brasstacks crisis itself neither India or Pakistan had declared public doctrines; neither side knew about each other's force postures or intentions. This study argues that Pakistan's deterrent posture ended the Brasstacks crisis because the US played a crucial role as a mediator. President

³¹ Ibid.

³² Shani, 'A Dangerous Exercise', p.22.

³³ Riffat Hussain, Interview (July 2009).

³⁴ Ibid.

³⁵ Carranza, *South Asian Security and International Nuclear Order*, p.30.

Ronald Reagan's telephone calls to Rajiv Gandhi and Zia, asking them to 'cool it',³⁶ settled the conflict. Here regime theory has relevance as does the neo-liberals' assumption that cooperation is possible and states' behaviour may be regulated in a crisis situation. The optimists' assumption that deterrence prevents escalation of conflict and avoids war also appears relevant.

Post-Brasstacks developments

President Reagan kept asking that Pakistan's uranium enrichment level should not be raised above 5 percent. Zia assured Reagan that his wish would be respected. On the other hand, Zia instructed A. Q. Khan 'to work all the way on the bomb project and not to make a mention to anyone including his cabinet regarding funds. Gen. Zia can be approached directly by Khan.'³⁷ At the time of Zia's death in a plane crash on 17 August 1988, Pakistan had clearly acquired the status of a nuclear threshold state.³⁸

On the Indian side, in February 1988, the first Prithvi test, a 150 km/1000 kg missile test occurred, which further heightened Pakistan's security concerns. The Indian medium-range Agni, nuclear capable with a range of 1500 km and a payload of 100 kg, was tested on 22 May 1989. This test started a missile race in the region in which Pakistan was obliged to follow suit. Thus, in February 1989 Pakistan also tested two short-range Hatf I missiles (a short range solid fuel missile, range 70–100 km and payload 500 kg) and a Hatf II missile (with similar payload but range of 300km). Indian behaviour aimed at a total balance in its favour, leaving Pakistan vulnerable. The failure of international institutions and the US to prevent Indian missile development brought the region to a state of near anarchy as indicated by the realist school. The withdrawal of the USSR from Afghanistan brought about a change in Pakistan–US relations. The

³⁶ Kanti P. Bajpai, et al., 'Brasstacks and Beyond', pp.35–6.

³⁷ Rehman, *Long Road to Chagai*, p.104.

³⁸ Ahmed, 'Pakistan's Nuclear program', p.188.

US had achieved its goal using Pakistan as a proxy and turning a blind eye towards its nuclear developments. The realist argument has relevance in this context, with its contention that states pursue their interests for their relative gains as did the US when it used Pakistan as a proxy against the USSR but abandoned it after the withdrawal of the Soviet troops from Afghanistan.

While Pakistan's strategic importance declined for the US, India became an increasingly important factor in its redefined political, commercial and strategic interests. That US policy was guided by economic interests exemplifies realist arguments: exploiting new markets in India, and using India to counter China as an emerging economic rival led the US to re-evaluate its policy towards South Asia. However, George H. W. Bush's administration still wanted to maintain security relations with Pakistan. Benazir Bhutto had to suspend the accumulation of enriched uranium (which was at a peak during Zia's presidency) in 1989 before she was able to pay a visit to the US. Ms. Bhutto took this initiative due to this external pressure. During her first tenure, she realised that Pakistan was experiencing economic and financial difficulties and required improved relations with the US. She was also concerned to maintain a minimum nuclear deterrence in a semi-anarchic region. On her visit to the US in 1989 she denied any possession of – or intention to possess – nuclear weapons.³⁹ According to General Aslam Beg, when interviewed in 2007, Benazir lied to secure Pakistan's national interests and gain economic assistance from the US.⁴⁰ Realism correctly predicts that states will go to any length to secure their national interests or relative gains. In 1989, President Bush and Benazir Bhutto agreed that the US would provide Pakistan with 28 F-16 fighter planes (for which Pakistan had already paid). Islamabad asked Washington to provide it with further aid such as \$380 million

³⁹ Rehman, *Long Road to Chagai*, p.109.

⁴⁰ Gen. Mirza Aslam Beg, Interview (2007, 2008).

in economic and \$240 million in military aid for 1990.⁴¹ Instead of aid, Pakistan came under US sanctions, in the form of the Pressler Amendments, to force it to discontinue its nuclear weapons development. However, military commercial sales continued in 1991, when the US State Department provided Pakistan with \$100 million in commercial sales.⁴² However, when President Ghulam Ishaq Khan dismissed Benazir Bhutto's government on 6 August 1990, she defended herself claiming that 'she was dismissed because of her bid to be assertive in Pakistan's nuclear programme and described her dismissal as a nuclear coup'.⁴³ After general elections were held in October 1990, Nawaz Sharif became the Prime Minister although nuclear control remained with the Pakistan Army. Instead of seeking to control Pakistan nuclear behaviour through a negotiated approach, the US illustrated realist arguments by unilaterally trying to secure its own interests in the region.

The Kashmir Conflict (1990)

At the regional level, the Kashmir dispute re-emerged not long after the resolution of the Brasstacks affair. Kashmir, a majority Muslim state, was in open rebellion in 1989 against the state of India. India blamed Pakistan for waging an unconventional or asymmetrical war with India by providing assistance to the Kashmiri Muslims which they called 'provoking terrorism'. In response, Islamabad insisted that it gave only moral support to the Kashmiri 'freedom Fighters'. Thus, Pakistan's 'freedom fighters' were perceived in India as 'terrorists'. This crisis situation and aggressive behaviour by both states brought the region again close to war, for the second time since 1971. The nature of this limited war was as large as the preparation required for

⁴¹ David. S. Chou, "US Policy Towards India and Pakistan in the Post Cold War Era", p.30.
<http://www2.tku.edu.tw/~ti/Journal/8-3/832.pdf>

⁴² Ibid.

⁴³ Rehman, *Long Road to Chagai*, p.111.

launching a conventional attack.⁴⁴ The deployment of the forces on a large scale around the Line of Control (LoC), the demarcation line between Pakistan and India in Kashmir, proves the above argument. Aggressive statements and signals dominated the war-like situation. On 10 April, Indian Prime Minister V. P. Singh during his address warned Indians to be ‘psychologically prepared’ for a war. He said, ‘Our Message to Pakistan is that “you cannot get away with taking Kashmir without a war”. They will have to pay a very heavy price and we have the capability to inflict heavy losses.’⁴⁵ Singh said, ‘if Pakistan deploys nuclear weapons, India will have to take a second look at our policy. I think we will have no option but to match. Our scientists have the capability to match it.’⁴⁶

When Pakistan at the same time carried out its ‘threat assessment’ in detail, General Aslam Beg, then Army Chief, informed his corps commanders that India had deployed a ‘a strike force of up to 100,000 men within fifty miles of the border in Rajasthan’.⁴⁷ Pakistan perceived that ‘India might be preparing an attack on Pakistani Kashmir on the pretext of destroying Kashmiri “freedom fighter” training camps. There was also concern that a simultaneous attack might be launched into Sindh province, where the only road and rail link between north and south Pakistan is located about 40 km from the Indian border.’⁴⁸ India was officially ready to forward more troops in Kashmir as Delhi declared ‘forces on the both sides of the border were on a higher than normal state of alert, but several levels lower than would indicate imminent hostilities’.⁴⁹ According to Hagerty, there was news that Beg had authorized technicians at Kahuta to be ready to use a bomb against India if required. Hagerty summarized the

⁴⁴ Hagerty, ‘Nuclear Deterrence in South Asia’.

⁴⁵ Ibid.

⁴⁶ Ibid.

⁴⁷ Ibid.

⁴⁸ James Clad and Salaamat Ali, ‘Will Words Leads to War?’ *Far Eastern Review*, (26 April 1990), pp.10-11.

⁴⁹ ‘Indian Troops Reinforced New Kashmir Border with Pakistan’, Reuter’s Report (12 April 1990).

warning as in essence the command that if ‘you move up here’, ‘we’re going to take out Delhi’.⁵⁰

The US played a crucial role as mediator by sending Robert Gates, deputy director of the Central Intelligence Agency, in a mission to the region to cool tempers. According to a US official, ‘the gist of the message to both sides was that war would be to neither side’s advantage’.⁵¹ In June, India announced that it was calling its armour back to normal stations from Mahajan, where it had been sent in February. Hersh states that the American intelligence community, also operating in secret, had concluded by late May that ‘Pakistan had put together at least six and perhaps as many as ten nuclear weapons, and a number of senior analysts were convinced that some of those warheads had been deployed on Pakistan’s American-made F-16 fighter planes’. He further reveals that ‘there was little doubt that India, with its far more extensive nuclear arsenal, stood ready to retaliate in kind’.⁵² A CIA official informed Hersh: ‘There’s no question in my mind that we were right on the edge. This period was very tense.’ He further said that according to the CIA official, ‘without some intervention the two parties could miscalculate and miscalculation could lead to a nuclear exchange’. Contrary to Hersh’s observations, Hagerty writes that the US diplomats and military attachés posted in Islamabad and New Delhi in the spring of 1990 maintained a contradictory viewpoint. After analysing these officials’ statements, it is safe to conclude that the region was in severe crisis but that Hersh’s information was exaggerated.

The real evidence shows that Kashmir was in flames, that India and Pakistan put forces forward and were preparing for conflict, and the two sides also had the capacity to inflict enormous damage on each other’s territory. The US diplomats stationed in Islamabad and New Delhi sensed that either nuclear or conventional war ‘was

⁵⁰ Hagerty, ‘Nuclear Deterrence in South Asia’.

⁵¹ Ibid.

⁵² Hersh, ‘On the Nuclear Edge’.

imminent' and, as a result, the US sent its high level delegation to South Asia to ease the tension. Mediation worked when Robert Gates' mission de-escalated the crisis. Pardesi argues that '[n]uclear weapons were the primary cause of stability, for Gates [might] not have undertaken the mission in the first place if India and Pakistan had not been nuclear armed'.⁵³ He further believes that "the [ED]" argument makes a more compelling case for the peaceful resolution of the 1990 crisis'.⁵⁴

It may be argued that Indo-Pakistan security problems are linked to the uncertainty about the others' intentions which is called by Schweser a 'dilemma of interpretation',⁵⁵ itself a result of the semi-anarchic nature of the region. In a semi-anarchic system of states, the decision-makers in one state cannot fully understand the minds and intentions of their counterparts. Mearsheimer correctly believes that 'intentions are impossible to divine with 100 [percent] certainty',⁵⁶ which leads to 'an existential condition of "unresolved uncertainty"'.⁵⁷ When this uncertainty is embedded with history of hostility, it leads to fear and 'worst-case scenario' planning. Existential deterrence and the fear of escalation of a limited war into a nuclear war compelled mediation to settle the dispute. For neoliberals, alliances are pivotal in mediation and act as the principal means to achieve and maintain cooperation between states. As Keohane argues, 'cooperation is not always benevolent, but we will lose out without cooperation'.⁵⁸ Keohane's argument suggests that states pursue their interests through cooperation; they seek to limit problems collectively, reduce uncertainties, and spread information about preferences and behaviour through cooperation,⁵⁹ as the US played a role in the Brasstacks and later the Kashmir crisis of 1990. Thus, it is important that the existence

⁵³ Manjeet S. Pardesi, 'Nuclear Optimism and the 1990 India-Pakistan Crisis', in Ganguly and Kapur (eds.), *Nuclear Proliferation in South Asia: Crisis Behaviour and the Bomb*, p.71.

⁵⁴ Ibid.

⁵⁵ Schweser, 'India and Pakistan: Trapped in a Security Paradox?', p.2.

⁵⁶ John J. Mearsheimer, *The Tragedy of Great Power Politics* (New York: Norton, 2001), p. 31.

⁵⁷ Quoted in Schweser, 'India and Pakistan Trapped in a Security Paradox', p.2.

⁵⁸ Robert Keohane, *International Institutions and State Power* (West view Press, 1989), p.234.

⁵⁹ Solingen, *Nuclear Logics*, p.28.

of institutions should have an independent role in bringing states into cooperation to stabilize the international system and secure their mutual interests. The argument here, however, is that international institutions should hold the power – instead of the US as a unilateral power – to build cooperation and resolve international conflicts and crises. The argument addressed here is that institutions and the global community failed in addressing the Indian conventional and nuclear developments before and after the 1990s, which shaped Pakistan's behaviour leading towards 1998 tests.

Pakistan's behaviour from 1990 onwards: developments in non-proliferation

After the imposition of sanctions in the 1990s, the US asked Pakistan to open up its nuclear facilities for inspection in order to verify its assertion that it possessed no nuclear weapons. Pakistan refused this request.⁶⁰ Pakistan was then pressured to join the NPT.⁶¹ Pakistan again maintained its India-specific policy – that it would do so if India joined the treaty. Indian hostility, the Kashmir war, subsequent US sanctions and the US rejection of the purchase of further F-16 fighters further heightened Pakistan's security concerns.

Pakistan tried to convince the US to lift the Pressler sanctions, approved the NPT extension and also offered to sign the CTBT if India also acceded. Pakistan also supported non-proliferation efforts and proposals for a nuclear limitation at regional and global level. For example, a proposal presented by the Bush administration in 1990 for consideration of security issues in South Asia at a conference of five states (China, Russia, the US, India and Pakistan) was accepted by Pakistan and rejected by India. The

⁶⁰ David. S. Chou, 'US Policy Towards India and Pakistan in the Post-Cold War Era', p.30, article accessible at, <http://www2.tku.edu.tw/~ti/Journal/8-3/832.pdf>

⁶¹ Ibid.

Bush Administration revised this proposal in 1993 to include Germany, France and Japan; India again rejected the proposal of a conference of nine states.

International institutions appeared more effective as a result of strengthened export control mechanisms in the early 1990s. At the end of 1990, a modified ZC Trigger List was published by the IAEA as INFCIRC/209/Rev. The list included additional items for uranium enrichment by gas centrifuge and gaseous diffusion methods and most importantly, reprocessing technology. Another important session had been held by the NSG in 1978 at the Hague with additional states. During this meeting the NSG initiated a special working group to control nuclear related dual-use materials and equipment technology to prevent their use in 'nuclear explosive activity' or an unsafeguarded nuclear-fuel cycle activity'. The Group also agreed that these NSG guidelines should be amended to conform to the modified trigger List of ZC. Subsequently, the IAEA published both the guidelines and the dual-use list as INFCIRC/25/Rev.1/Part 2 in 1992. Furthermore, in January 1993, the MTCR states published new Guidelines for sensitive Missile-Relevant Transfers. It is important to note that in 1996 Dutch export control authorities introduced a 'catch-all' clause, by which an ad hoc export licence obligation could be invoked whenever licence-free goods were suspected to be destined for WMD-related programmes: 22 catch-all clauses were invoked between 1996 and 2004.⁶² All these developments appeared too late, since Pakistan had already procured the necessary materials to build a bomb from the international market.

During the 1990s, the US pursued a policy of damage limitation with regard to the non-proliferation regime, seeking to control the South Asian states' behaviour in so far as this was possible, control the nuclear and missile arms race and to promote

⁶² Frank Slijper, 'Project Butter Factory: Henk Slebos and the A.Q. Khan nuclear network', *Transnational Institute* (September 2007), p.24.

bilateral dialogue, particularly on the issue of Kashmir. Several issues were on the agenda:

- signing and ratifying the CTBT
- preventing the further production of fissile material and building cooperation to join the FMCT
- limiting development and deployment of delivery systems
- introducing stringent export control laws on nuclear-related material and technologies
- facilitating dialogue between India and Pakistan.

None of the above objectives was achieved. On taking office in 1993, President Bill Clinton adopted a flexible policy towards India and Pakistan through positive engagement to freeze their competitive nuclear programmes. His administration held negotiations with the Pakistan military authorities and political leadership, offering economic and military incentives. In early 1994, there was a onetime waiver of the Pressler Amendment to facilitate the release of 28 F-16 aircraft and other equipment for which Pakistan had made earlier payment. The US pressured Pakistan not only to roll back its nuclear programme, but also to abandon the nuclear option. This was not, however, acceptable for Pakistan bearing in mind the geopolitical and regional challenges it faced.

Active consideration of the CTBT at the UN Committee of Disarmament, an NPT review and extension conference in 1995, and negotiations on the cut-off production of fissile materials for nuclear weapons were begun. Pakistan accepted the CTBT but to accept a ban on the further production of fissile material outside the safeguards regime would have involved an awkward decision for Pakistan. The signing

such a treaty could hinder the survivability of its deterrent if India was able to enhance its pre-emptive strike capability through the deployment of armed missiles.

The fact that Pakistan had to explore all the necessary means of meeting its security needs against its principal perceived adversary illustrates the arguments of the realist school. For example, despite economic and military sanctions, Pakistan continued its nuclear programme and did not place a cap on uranium enrichment. Technological assistance and other material help from China provided Pakistan with some leverage to counter economic pressure on its nuclear programme. China on the other hand, showed some concern at the prospect of an arms race between India and Pakistan and later fully supported the UNSC resolution condemning the Indo-Pakistan nuclear tests. The P5 states called upon Pakistan to join the NPT as a non-nuclear weapons state and disregarded its objection to the treaty as discriminatory and undemocratic.⁶³ The US continued to offer economic incentives with the aim of encouraging Pakistan to join the NPT and CTBT.

The NPT treaty was extended for an indefinite period in 1995 but Pakistan did not participate in the NPT review and extension conference. Pakistan again argued that it was ready to sign the NPT if India did so as well. Pakistan had no other option for its security and survival but to rely on nuclear weapons and did not want to compromise its security by signing the treaty. Pakistan at this point asked the West to declare a NWFZ in South Asia. On 6 June 1996, Pakistan proposed that the US, Russia, China, India and Pakistan hold a conference to discuss a nuclear-free zone in South Asia.⁶⁴ The US, China and Russia supported the proposal but India refused to take part in the conference. This initiative failed because of Indian obduracy: India did not want to

⁶³ Hasan Akhtar, 'Islamabad Calls Big Five Stance Biased', *Dawn* (7 June 1998).

⁶⁴ US Department of State Dispatch, 2, No.47 (25 November 1991), p.859.

discuss or accept any limitation on its development of nuclear-armed missiles.⁶⁵ Both the US and international institutions failed to prevent the development of the Indian missile programme. Instead of seeking to contain Indian behaviour and preventing the development of its missile programme, the West sought to place further pressure on Pakistan when it sought to acquire the M-11 missile from China. After US protests, the planned purchase was dropped.

In 1995, the Pakistani Prime Minister Benazir Bhutto (now in her second term in office) paid an official visit to the US and stressed the need for a restoration of relations between the two states and also that the US should fulfil its agreement on the release of the F-16 fighter planes that had already been purchased. The Clinton administration agreed to support Pakistan and confirmed its support for a dialogue between India and Pakistan to resolve the issue of Kashmir as well as reaffirming its support for regional and global non-proliferation efforts and resolving the political and legal impediments to improved bilateral defence relations.⁶⁶ As a result, the US Congress passed the Brown Amendment and authorized Clinton to release military equipment to Pakistan ordered prior to 1990. However, the order did not include delivery of the F-16 fighter planes and the Pressler amendment was not rescinded.⁶⁷ Nevertheless, US–Pakistan relations showed a distinct improvement. In 1997, the US Congress passed the Henkin–Werner Amendments, which permitted American investment in Pakistan including some limited military cooperation involving international military education and training programmes.

⁶⁵ A.G. Noorani, 'An India-US Détente: Potentialities and Limits', *Global Affairs* (Fall 1993) p.128. US Department of State Dispatch 2, No. 47 (25 November 1991). Chou, 'US Policy towards India and Pakistan in the Post Cold War Era', p.33.

⁶⁶ Chou, 'US Policy Towards India and Pakistan in the Post Cold War Era', p.40.
<http://www2.tku.edu.tw/~ti/Journal/8-3/832.pdf>

⁶⁷ Pakistan paid \$658 million for 28 F-16s, which were stored at a US air force base in Arizona after the Pressler amendment barred transfer.

The argument here is that the US imposed sanctions against Pakistan in the 1990s to dissuade it from developing nuclear weapons, but it also sought to maintain close relations with Pakistan, for example as part of the diplomatic offensive prior to its military operation in the Gulf against Iraq.⁶⁸ Therefore, the US engaged in selective sales of military spare parts and equipment to Pakistan. The evidence shows that economic sanctions on the trade in arms did not result in a change of policy in Pakistan's continuing nuclear weapons programme. The evidence further suggests that 'sanctions against a potential proliferator in a protracted conflict zone without a nuclear ally are unlikely to succeed, particularly if the proliferator is an isolated state'.⁶⁹

Waltz, through a realist lens, believes 'more may be better' as a source of regional stability where NWD has stabilizing effects.⁷⁰ Before the 1998 tests, there was a situation of 'no war and no peace' in South Asia. The arms race continued, which put the US-led non-proliferation policy on the back burner. The US Secretary for Defence William J. Perry stated on 31 January 1995 that the 'nuclear weapons capabilities of India and Pakistan emerged from a dynamic that the United States was unlikely to be able to influence in the near term'.⁷¹ Therefore, instead of rolling back this capability, which was not possible, the US pursued a policy of capping the rival nuclear capabilities, which was tantamount to an admission of defeat.⁷² The capping strategy was a failure and both Pakistan and India continued with their programmes. Furthermore, the West naively thought that having originally acquired nuclear energy for peaceful purposes, India would not move to overt nuclearization. The immediate trigger for India was the conclusion of the CTBT in 1996. In that agreement, India

⁶⁸ Chou, 'US Policy Toward India and Pakistan in the Post-Cold War', p.30.

⁶⁹ T. V. Paul, 'Strengthening the Non-Proliferation Regime: The Role of Coercive Sanctions', *International Journal*, 51, No. 3 (Summer 1996), pp.441-65.

⁷⁰ Quoted in Carranza, *South Asian Security and International Nuclear Order*, pp.18-19.

⁷¹ *Ibid.*, p.34.

⁷² *Ibid.*

recognized that the emerging consensus over the CTBT would prevent it from testing nuclear weapons. While Pakistan voted in favour of the CTBT, India refused to do so. The Indians wished to carry out a second series of tests because they had a low level of confidence in the efficacy of their 1974 nuclear tests.

The world had begun to seem a safer place in the 1990s, with the decisions of Argentina, Brazil, South Africa, Ukraine, Kazakhstan and Belarus to join the NPT. However, this still left the South Asian region with the greatest potential nuclear threat and one which was outside the regime of codified norms against nuclear proliferation. Since they were not included in the NPT treaty, if India and Pakistan chose to test nuclear devices they would not be violating the accord directly, but such behaviour would clearly disturb the equation and undermine the sense that the non-proliferation movement was gaining strength.

Towards the 1998 tests

Pakistan's nuclear policy entered a new phase when the Hindu nationalist party, the Bharatiya Janata Party (BJP), gained power in India in March 1998 with an overtly *hindutva* rather than secular policy. The BJP had already declared that 'it would re-evaluate the country's nuclear policy and will not leave behind the option to induct nuclear tests'.⁷³ Brajesh Mishra, the BJP's first National Security Advisor and principal secretary to the Prime Minister of India, Atal Bihari Vajpayee, had also declared that the party would adopt a 'weaponiz[ation] option' and would go to every extent to declare weaponization [WD].⁷⁴ The continued Indian arms build up was another indication of its hostile behaviour. The balance was further tilted towards India. As

⁷³ Quoted in Samina Yasmeen, 'Pakistan's Nuclear Tests: Domestic Debate and International Determinants,' *Australian Journal of International Affairs*, Vol.53, No.1 (1999), p.45.

⁷⁴ Ibid.

Samina Yasmeen has argued, the fact that '[P]rithvi missiles were already inducted into the Indian army, and that a variant for the air force was also being developed, was considered proof that India intended to subjugate Pakistan'.⁷⁵

India's unconditional hostility and the US discriminatory policy towards Pakistan changed Pakistan's 'cautious and restrained nuclear policy' into one of weaponization. Both Benazir Bhutto and Nawaz Sharif during their periods in office in the 1990s had adopted a 'cautious policy' and maintained a policy of nuclear ambiguity and NWD. However, on 6 April 1998, Pakistan tested its Hatf-V surface-to-surface missile Ghauri, a 1,500 km-range weapon system with a claimed payload of 700 kg. The testing of the Ghauri, which Pakistan saw as an answer to India's short-range Prithvi surface-to-surface missile, emboldened Pakistan, which had for long been unable to come up with a credible response to India's missile programme. Pakistan claimed that it was now 'on a par' with India as far as ballistic missile technology was concerned. Its scientists claimed that the Ghauri was 'invincible' and that anti-missile technology would not be able to counter it. With this missile Pakistan became capable of targeting twenty-six cities in India. Following the test an Indian defence Ministry spokesman stated that India 'was aware of Pakistan's clandestine acquisition of missiles and missile technology' and that India would take 'resolute steps to meet any threat to its national security'.⁷⁶ Evidently, an arms race was in the offing in the subcontinent. With this started a tit-for-tat nuclear and missile race between India and Pakistan involving a risky and unnecessary cycle of action–reaction and escalation.

India then displayed its nuclear prowess by conducting five underground nuclear tests at Pokhran in Rajasthan (three blasts on 11 May and two blasts on 13 May 1998). The Indian Government stated that 'the nuclear tests have established that India has a

⁷⁵ Ibid., p. 46.

⁷⁶ *Frontline*, Chennai (8 May 1998).

proven capability for a weaponized nuclear programme'.⁷⁷ A week before the Indian nuclear tests, George Fernandes, the Indian Defence Minister, stated that 'China, not Pakistan was India's "potential threat No. 1"'.⁷⁸ The BJP claimed that the decision was taken to deter China. Yet, prior to the tests, the Chinese government had sought improved relations with India, as Carranza notes.⁷⁹ Indeed, Sino-Indian relations had improved greatly after Rajiv Gandhi's December 1988 visit to China when the two states agreed to refrain from the use of military force against each other. They later agreed to promote Confidence Building Measures (CBMs) by withdrawing troops from the border. There was a further improvement in relations when Jian Zemin of China visited India in 1996 and signed another agreement on the disputed border issue. It may be argued that China was too busy pursuing its own rapid economic development to wish to be engaged in a territorial conflict or a war. With regard to Pakistan, India had ascendancy in terms of its conventional weapons capability. The argument in this study is that in pursuing nuclear weapons tests in 1998 India was driven more by considerations of status and prestige than security.

The desire to evade American pressure to sign the NPT and the CTBT was closely related to this wish to demonstrate that India had become a nuclear weapons state. Carranza notes the strategic elites' perception that the global nuclear order was based on injustice and that India had to break this discriminatory attitude by having its own bomb, an objective which India also had a legitimate right to pursue. Indian public opinion was converted to a pro-nuclear position during the 1990s by the lobbying of the strategic and bureaucratic elites, who argued that these weapons were necessary for

⁷⁷ Quoted in Dr. Vinay Kumar Malhotra, 'Nuclear and Missile Race in South Asia: Relevance of Military Restructuring', p.7. www.djis.dk/graphics/COPRI_publications/COPRI.../19-1999.doc

⁷⁸ Carranza, *South Asian Security and International Nuclear Order*, p.46.

⁷⁹ *Ibid.*, p.47.

security reasons.⁸⁰ Yet the argument in this study is that the Indian nuclear tests were more status-driven than security-driven. India did not acquire nuclear weapons because it considered them necessary to improve its security, but acquired them to satisfy its other interests – though they clearly would not harm its security.⁸¹ When interviewed in 2009, Hans Blix also considered that the factor of status was behind Indian nuclear tests of 1998.⁸² The Indian elites thought that after demonstrating that they could produce a nuclear bomb India would gain a new level of world recognition. Carranza also argues that the search for power and international status rather than security considerations explains the Indian attitude. India wanted greater freedom of action to exert an influential role in the world and at a regional level, to enjoy hegemony in the Indian Ocean. When interviewed in 2009, Riffat Hussain noted that there was a security rationale, in that Indian decision-makers cited not only China's existence at its border but also Pakistan's deep collaboration with China as justification for going nuclear.⁸³ Nevertheless, Hussain concurred that India's decision was prestige driven in the sense that India believed that nuclear weapons are a currency of international power and that it would not be able to exercise significant political influence in the world without becoming a nuclear weapons state.⁸⁴ Jaswant Singh, the Foreign Minister in the BJP-led coalition government argued,

An examination of the first fifty years of Indian independence reveals that the country's moralistic nuclear policy and restraint did not really pay any measurable dividends ... [I]f the Permanent Five's possession of nuclear weapons is good, and confers security to their respective countries, then how is the possession of nuclear weapons by India not good, or how does the equation reverse simply in this instance? There is

⁸⁰ Ibid., p.50.

⁸¹ Karsten Frey, *Elite Perception and Biased Strategic Policy Making*, Inaugural Dissertation, zu Erlangung der Doktorwürde der Fakultät für Wirtschafts und Sozialwissenschaften, Ruprecht-Karls-Universität Heidelberg (Oktober 2004), p.356. http://archiv.ub.uni-heidelberg.de/volltextserver/volltexte/2005/5236/pdf/Frey_Thesis.pdf

⁸² Hans Blix, interview (2009).

⁸³ Riffat Hussain, interview (July 2009).

⁸⁴ Ibid.

also the factor of the currency in the form of nuclear weapons: as an international communicator of force then how is India to voluntarily devalue its own state power, which it has to, after all, employ for its own national security?⁸⁵

Singh further argued: 'Nuclear technologies became, at their worst, commodities of international commerce, and best lubricants of diplomatic fidelity'.⁸⁶

Turning to Pakistan's response to the Indian nuclear tests, this was predictable and was once again conditioned by its strategic environment and the perception – which was reinforced by the BJP's electoral propaganda⁸⁷ – that India was determined to undo the creation of Pakistan and reverse its control of Azad Kashmir. The international community and the US in particular placed sanctions on India and started confidence-building measures with Pakistan to encourage it not to follow suit.⁸⁸ When the international community did not respond firmly enough to the Indian explosion, Prime Minister Nawaz Sharif summoned a meeting of the Defence Committee of the Cabinet (DCC) on 15 May 1998 to consider the situation, receive a technical assessment of the Indian tests and ascertain the possibility of a matching response from Pakistan. Dr. Samar Mubarakmand, then Director of Technical Development (DTD), who had supervised several cold tests and A.Q. Khan from KRL were also present at the meeting. Rehman reveals that the PAEC was given the task of carrying out the tests but

⁸⁵ Quoted in Christophe Jaffrelot (ed.) *Hindu Nationalism. A Reader* (Princeton and Oxford: Princeton University Press, 2007), pp.303, 306.

⁸⁶ Ibid. pp.305–307.

⁸⁷ Shortly prior to the 1996 elections, the BJP issued a Preface to the Study Committee on Kashmir Affairs, *BJP on Kashmir*. This argued that in 1971 the unprecedented defeat of Pakistan had offered the opportunity for 'a full and final settlement of the Kashmir problem' but this was 'squandered away'. 'Insurgency cannot be fought with kid gloves on', the document argued. 'A war has to be fought like a war ... The war against the separatists and terrorists being fought in Jammu & Kashmir can be won. It has to be won...' *Hindu Nationalism. A Reader*, ed. Jaffrelot, p. 217.

⁸⁸ Yasmeen, 'Pakistan's Nuclear Tests: Domestic Debate and International Determinants', p.53.

Dr. Khan protested that KRL should be associated in the task. Heinonen and Hinderstein both contend that Samar Mubarakmand was placed in charge of the tests.⁸⁹

Pakistan thus relinquished its ED, or NWD, in favour of minimal nuclear deterrence by exploding nuclear devices on 28 May and 30 May 1998. It exploded six nuclear devices in all, and six different designs (five on 28 May and one test on 30 May), in the first ever nuclear test in the Chagai Hill in the province of Balochistan. Although it is claimed that the devices were based on the PAEC designs, US intelligence reports reveal that the ‘test of 30 May was an advanced design, which may have used both enriched uranium and plutonium with sophisticated reflector, driver neutron source’.⁹⁰ When interviewed in 2009, Olli Heinonen stated that

another person [Samar Mubarakmand] was the one who designed the bomb and he was in charge of the 1998 weapons test. The design of that weapon was not done by A.Q. Khan; he had his own design and some of these designs we have found in Switzerland. Khan is the hero because he made it possible but he is not the one who designed it. It is not Khan, it is not PAEC, and there is another group [i.e. the Samar Mubarakmand group] their designs were very advanced and they were in charge of 1998 tests. This has come through certain channels to our knowledge but we do not have a complete picture.⁹¹

The logic of Pakistan’s weaponization was completely Indo-centric, seeking to offset India’s conventional superiority by nuclear means. Pakistan’s threat perception remained real and evolved over time. Russia and various European states continued to sell India weapons and equipment but denied Pakistan similar treatment; instead Pakistan was a victim of sanctions. The realist argument is relevant to Pakistan’s position at this time, when the threat from India and discriminatory sanctions imposed by the USA and other western powers increased the imbalance in conventional

⁸⁹ Olli Heinonen, Corey Hinderstein (Vice-President for International Programs, NTI) Interview (Tucson, July 2009).

⁹⁰ Rehman, *Long Road to Chagai*, p.15.

⁹¹ Olli Heinonen, interview (Jul 2009).

armaments with India and heightened its insecurity, which set the stage for its reactive nuclear programme.

The UNSC condemned this action and the US imposed economic sanctions against both countries by invoking the Glenn Amendment.⁹² UNSC resolution 1172 of 6 June 1998 required Pakistan and India not to carry out any more tests and to halt the development of their nuclear weapons programmes as well as to join the NPT as NNWS. The two states were also urged to resume dialogue on ‘all outstanding issues, particularly on all matters pertaining to peace and security, in order to remove the tensions between them’, and they were encouraged ‘to find mutually acceptable solutions that address the root causes of those tensions, including Kashmir’.⁹³

Although both states held nuclear tests in 1998 to date the international community have not formally accepted their status as nuclear powers (President Obama did so informally only in 2010). As neither state had previously signed the NPT, India and Pakistan can only join the treaty as NNWS. Yet neither state is likely to abandon its nuclear programme. The difficult question of how to deal with these two states and bring them into cooperation with the non-proliferation regime is addressed in chapter 6 of this study.

Mearsheimer correctly maintains that the ‘causes of war and peace are a function of the balance of power and institutions overall mirror the distribution of power in the system’.⁹⁴ Realists contend that the world is fundamentally a competitive environment. Taking this argument as a starting point, it can be argued that the semi-anarchy that operated at a regional level forced Pakistan to survive via self-help. In an anarchic or semi-anarchic system, states prefer to deal with adversaries by building up their

⁹² President Bill Clinton imposed the Glenn amendment sanctions against India on 13 May 1998, two days after New Delhi broke its self-imposed 24-year moratorium on nuclear testing. On 30 May 1998, Clinton invoked similar sanctions against Pakistan, following Islamabad’s six nuclear tests.

⁹³ UN Security Council Resolutions for 1998 at <http://www.un.org/Docs/scres/1998/scres98.htm>

⁹⁴ Henry Kissinger, *The World Restored*, p.145.

armaments and winning allies instead of seeking to build cooperation towards arms control based on common interests. Pakistan pursued exactly the same policy. Therefore it sought to maximise its relative power position within the system. In the sub-continent in 1998, morality and norms had no relevance in regional power politics, since the rival states pursued their strategic interests as they perceived them and in so doing they behaved in a rational manner. Pakistan could not afford to stand relatively defenceless on the moral high ground, while the regional hegemon pursued an active policy of acquiring nuclear weapons in addition to its superiority in conventional weapons.

The Kargil War: Pakistan's behaviour and the perception of security paradox

The question debated above, the extent to which a weaponized option or WD may prevent wars and stabilize a region, appears to be challenged in the case of India and Pakistan, which fought a limited war within a year of their 1998 tests. How does this concept account for the experience of the Kargil war?

The Kargil conflict broke out in May–June 1999, when the two states fought a short, sharp, war which left more than 1,000 casualties on each side.⁹⁵ The war took place over the disputed territory of Kashmir, along the LoC. As the war progressed, each state took steps to escalate the conflict, which carried the risk that it could have spiralled out of control.

The war was started in May when soldiers from the Indian side of the LoC encountered Pakistani infiltrators occupying land that had been vacated by Indian soldiers early in the previous winter. The conflict was more serious than the usual level of artillery firing which helps to identify the scale of military confrontation along the

⁹⁵ Carranza, *South Asian Security and International Nuclear Order*, p.78.

LoC. Neil Joeck reveals that it was a significant Pakistani occupation of key points around the town of Kargil,⁹⁶ although Islamabad claimed that the forces occupying the disputed ground were local ‘freedom fighters’. Pakistan deployed elements of the Northern Light Infantry into positions vacated by Indian troops, seizing a 200-kilometer stretch of territory.⁹⁷ India perceived Pakistan’s action as significantly challenging its control of the main highway through Kashmir and threatening to cut off the resupply of its forces based on the disputed Siachen Glacier. India escalated at the point of Pakistan’s attack, but finding itself fighting up almost vertical heights, was unable to dislodge the invaders.

J. N. Dixit, the Indian National Security Adviser and a key member of its defence committee, saw the potential for serious military escalation:

... the use of the air force would change the nature of the military conflict
... if India decided to deploy the air force in Kargil, India should be well prepared to anticipate the expansion of war beyond Jammu and Kashmir, and respond to expanded Pakistani offensives in other parts of India.⁹⁸

The implications of the decision to use air power were therefore not lost on the Indian decision-makers. Nevertheless, India had no clear knowledge of Pakistan’s strategic thinking during this conflict, especially regarding the question of whether or not it was preparing to deploy its nuclear arsenals. Pakistan’s foreign secretary stated: ‘we will not hesitate to use any weapon in our arsenal to defend out territorial integrity.’⁹⁹ This conflict reveals the effects of WD and the stability–instability paradox. The security paradox is defined by Booth and Wheeler as ‘a situation in which two or more actors, seeking only to improve their own security, provoke by their words or actions an

⁹⁶ Neil A. Joeck et al., “The Indo-Pakistan Nuclear Confrontation: Lessons from the Past, Contingencies for the Future”, NPEC working paper series (2008). <http://www.npec-web.org/Essays/20080919-Joeck-IndoPakistaniNuclearConfrontation.pdf>

⁹⁷ Ibid.

⁹⁸ J. N. Dixit, *India-Pakistan in War and Peace* (Taylor and Francis, Inc., 2002), pp.55-6.

⁹⁹ Quoted in Chari, ‘Nuclear Crisis, Escalation Control, and Deterrence in South Asia’, p.19.

increase in mutual tension, resulting in less security all around'.¹⁰⁰ For P. R. Chari, 'the "stability" induced in bilateral adversarial relations by constructing a nuclear deterrent relationship could be offset by the "instability" resulting from the feasibility of a conventional war becoming greater.'¹⁰¹ Bruce Reidel also claims that nuclear readiness was real¹⁰² as does Bill Clinton in his memoirs.¹⁰³

Islamabad announced that it would use any weapons in its arsenal to preserve the state's integrity.¹⁰⁴

India then [during the Kargil conflict] activated all its three types of nuclear delivery vehicles and kept them at what is known as Readiness State 3 – meaning that some nuclear bombs would be ready to be mated with the delivery vehicle at short notice. The air force was asked to keep its Mirage fighters on standby. [Defence Research and Development Organization] scientists headed to where the Prithvi missiles were deployed and at least four of them were readied for a possible nuclear strike. Even an Agni missile capable of launching a nuclear warhead was moved to a western Indian state and kept in a state of readiness... [P]akistan too is learnt to have had its nuclear weapons in an advanced state of readiness.¹⁰⁵

When interviewed in 2009, Riffat Hussain maintained that 'nuclear weapons and conventional forces were crucial in deterring India from prosecuting a limited war as a response to the Kargil Operation'.¹⁰⁶ As the war progressed, the Pakistani Prime Minister, Nawaz Sharif, became nervous and later, after consultation with the US, he ordered the troops off the Kargil heights, a decision against which General Musharraf (the chief protagonist of the Kargil adventure) protested: 'there had been no need for

¹⁰⁰ Ken Booth and Nicholas J. Wheeler, *The Security Dilemma: Fear, Cooperation, And Trust In World Politics* (New York: Palgrave Macmillan, 2008).

¹⁰¹ Chari, 'Nuclear Crisis, Escalation Control, and Deterrence in South Asia', p.19.

¹⁰² Bruce Reidel, 'American Diplomacy and the 1999 Kargil Summit at Blair House,' *Centre for the Advance Study of India*, Policy Paper Series 2002, p.3.

¹⁰³ Bill Clinton, *My Life*, (London: Arrow Books, 2005), pp.864-66.

¹⁰⁴ Chari, 'Nuclear Restraint, Nuclear Risk Reduction, and the Security-Insecurity Paradox in South Asia', p.20.

¹⁰⁵ Ibid., p.21.

¹⁰⁶ Quoted in Khurshid Khan, 'Limited War under Nuclear Umbrella', p.8.
<http://www.stimson.org/southasia/pdf/khurshidkhan.pdf>

Sharif to recall the troops ... in fact they were holding up well and were prepared to continue fighting.’¹⁰⁷

In this era of weaponization, it became obvious that ‘the new status each [state, i.e. India and Pakistan] claimed did not remove the danger of war, but certainly increased the stakes if war occurred’.¹⁰⁸ Thus, this belief that nuclear weapons states do not go to war with each other¹⁰⁹ failed in the South Asian region in 1999. Nevertheless, WD prevented the extension of the Kargil conflict from the Drass sector to other areas along the LoC in Kashmir. Some leading personnel argued from Pakistan that the ‘[v]alue of [the] nuclear capability was illustrated on at least three occasions [that is, Brasstacks, the Kashmir conflict in 1990 and the Kargil war]’.¹¹⁰ Both states had deployed nuclear weapons and ballistic missiles to carry the weapons to their targets.¹¹¹

P. R. Chari argues that the

This deterrent posture was strengthened after the nuclear tests, as evident from the mutual restraint exhibited by the two countries in the Kargil conflict. Neither country enlarged the dimensions of that conflict by opening other fronts and utilizing more destructive weapons like armour, fighter-bombers, or naval vessels.¹¹²

For Chari, ‘the availability of nuclear weapons facilitated the initiation of both sub-conventional and conventional conflict under the rubric of nuclear deterrence’.¹¹³ Indeed, the Kargil war has proven the fact that – at least until the emergence of the new Cold Start doctrine at the end of 2009 – India has no longer taken advantage of its

¹⁰⁷Joeck et al., ‘The Indo-Pakistan Nuclear Confrontation: Lessons from the Past, Contingencies for the Future’, p.6.

¹⁰⁸Chari, ‘Nuclear Restraint, Nuclear Risk Reduction, and the Security–Insecurity Paradox in South Asia’, p.15.

¹⁰⁹Ibid., p.16.

¹¹⁰Quoted in Chari, ‘Nuclear Restraint, Nuclear Risk Reduction, and the Security–Insecurity Paradox in South Asia’, p.17. <http://www.stimson.org/southasia/pdf/NRRMChari.pdf>

¹¹¹Vinay Kumar Malhotra, ‘Nuclear and Missile Race in South Asia: Relevance of Military Restructuring’, p.1.

¹¹²Chari, ‘Nuclear Restraint, Nuclear Risk Reduction, and the Security–Insecurity Paradox in South Asia’, p.27.

¹¹³Chari, ‘Nuclear Crisis, Escalation Control, and Deterrence in South Asia’, p.19.

superior conventional forces to strike at Pakistan because of the fear of nuclear retaliation.

After studying three crises between India and Pakistan, drawing analysis from NWD deterrence and the acquisition of WD, this study reaches the conclusion that the South Asian system remains semi-anarchic, with an embedded security dilemma and the risk of one state misinterpreting the motives of the other. 'Even if one side tries to send defensive/mitigating (potentially costly) signals to the other, the fear of cheating (with unforeseeable consequences) will dominate the other side's approach as long as there do not exist any solid mechanisms of reassurance'.¹¹⁴ Thus, the logic of uncertainty leads to offensive realism.

Conclusion

There are two main conclusions to be drawn from this chapter. Firstly, regarding behaviour of states after NWD and WD, against the argument that more may be worse and the logic that the spread of nuclear weapons to more states will increase the dangers, this study argues that the logic of nuclear deterrence is relevant in the South Asian region and that, overall, nuclear weapons have had stabilizing effects. Nuclear deterrence has in fact prevented conventional war since Kargil in 1999 – the fear of unimaginable destruction and annihilation has prevented the use of nuclear weapons at a regional level. Therefore, this study concludes that, at least in the experience of South Asia, the logic of nuclear deterrence has been closer to the mark than the logic of non-proliferation.

¹¹⁴ Schweers, 'India and Pakistan: Trapped in a Security paradox?', p.3.

Secondly, this study reconsiders the arguments regarding non-proliferation efforts and the behaviour of states. The May 1998 tests challenged the international nuclear order, efforts to prevent the proliferation of nuclear weapons and especially the policy of the P5 states. The Indian justification for the nuclear tests continued to stress ‘this unequal division between nuclear haves and have nots’ and Indian restraint in the acquisition of nuclear weaponry: ‘no other country in the world has demonstrated the kind of restraint that India has for near[ly] ... a quarter of a century after the first Pokhran test of 1974.’¹¹⁵ Its nuclear weapons had been developed a long time before these tests and India conceived nuclear weapons more as a symbol of status than an instrument of war. There was no high level of threat from China which India could claim needed to be addressed in 1998.¹¹⁶ India sought instead to maximize its sovereignty and advance its own state interests. The Indian posture is one of offensive realism or, as Jaswant Singh terms it, ‘aggressive defence’.¹¹⁷ India’s self-perception as a dissatisfied power in the international hierarchy led it to initiate a policy of nuclear weaponization which shows the clear relevance of realist arguments. This in turn ‘brought into the open the nuclear reality which had remained clandestine for at least the last eleven years’, that is since 1987.¹¹⁸ India’s behaviour can be linked to the failure of the NPT, in that it failed in the cooperation-building process and in achieving the set goals of disarmament, non-proliferation and the total elimination of nuclear weapons. The nuclear behaviour of Pakistan is directly linked to that of India, as its nuclear tests were security-oriented and India-specific.

¹¹⁵ *Hindu Nationalism. A Reader*, ed. Christophe Jaffrelot, p.307.

¹¹⁶ Though Jaswant Singh argued that ‘the Sino-Pakistan nuclear weapons collaboration, continued ... in violation of the NPT, [which] made it obvious that the NPT regime had collapsed, and critically in India’s neighbourhood.’ He also stated that ‘Chinese proliferation was a reality affecting India’s security’. *Ibid.*, p. 305.

¹¹⁷ *Ibid.*, pp.303, 306.

¹¹⁸ *Ibid.*, p.308.

Chapter Four

Pakistan's Transition from Vertical Proliferation to Horizontal Proliferation

Introduction

Pakistan's involvement in vertical nuclear proliferation was revealed when US intelligence discovered in October 2002 that Pakistan was assisting North Korea with uranium enrichment.¹ Pakistan vehemently denied any state involvement in nuclear proliferation and blamed A. Q. Khan. Subsequently, in October 2003, Tehran admitted to the IAEA that the centrifuges for its uranium enrichment were of foreign origin.² A short time afterwards, in late 2003, Libya also declared to the IAEA, the US and the UK that 'Khan with his associates had provided centrifuge technology, components, servicing facilities and training to Libyans in how to operate this machinery and even a bomb design'.³ Later, the UN nuclear watchdog stated that 'Khan's network smuggled nuclear blueprints to Iran, Libya and North Korea and was active in 12 countries'.⁴

Khan confessed his past behaviour in nuclear exports on 4 February 2004 and made his apologies to the Pakistan nation:

[M]any of the reported activities did occur... at my behest ... which were based in good faith but on errors of judgment. I wish to place on record that ... there was never ever any kind of authorization for these activities [by the Government].⁵

¹ David E. Sanger and James Dao, 'A Nuclear North Korea: Intelligence; U.S. Says Pakistan Gave Technology to North Korea', *New York Times* (18 October 2002).

² 'Nuclear Black Markets', *IISS Dossier*, p.70.

³ Bhumitra Chakma, *Pakistan's Nuclear Weapons*, p. 105.

⁴ 'Pakistan releases "father" of nuclear bomb from house arrest', *The Guardian* (6 February 2009).

⁵ Quoted in Chakma, *Pakistan's Nuclear Weapons*, p.104.

Following this, a flood of material was published and fingers were pointed at the government of Pakistan: such transfers could not have taken place without its knowledge, it was asserted. Wyn Bowen stated:

Given the nature and scale of the nuclear-related transfer to countries like Libya and Iran, it is certainly difficult to imagine them occurring without the consent, or at least support and knowledge of wider officialdom, including [the ISI].⁶

Subsequently, Khan was pardoned by the Musharraf government because of his contribution in the field of national security. The President declared that Khan and his associates were solely involved in such nuclear transfer activities and he stressed that ‘no Pakistani government or its army has ever been involved in any kind of nuclear proliferation’.⁷ The government placed Khan under house arrest, eventually declaring the case closed in May 2006. Later, writers and analysts in Pakistan stated that allegations against the scientist were false and there had been pressure on him to confess. Khan himself stated that he had taken the blame four years earlier for passing atomic secrets to Iran, North Korea and Libya in order to ‘save his country’.⁸

On 6 February 2009 Khan was released from five years of house arrest without receiving full authority to travel, or meet any interviewee on nuclear proliferation-related issues or to deliver any information in relation to this case. In an interview with *The Guardian*, Khan said, ‘he had no plans to travel abroad or engage in domestic politics’. He further said, ‘it’s a nice feeling, the worry is gone. I can lead a normal life now, as a normal citizen. It’s a fine feeling.’⁹

⁶ Wyn O. Bowen, *Libya and Nuclear Proliferation: Stepping Back from Brink* (London: Routledge, 2006), pp.41–2.

⁷ Quoted in Chakma, *Pakistan’s Nuclear Weapons*, p.104.

⁸ ‘Dr. Khan says he confessed to save Pakistan’, *Dawn* (8 April 2008).

<http://www.dawn.com/2008/04/08/top6.htm>

⁹ Saeed Shah, ‘Pakistan releases “father” of nuclear bomb from house arrest’, *The Guardian* (6 February 2009). <http://www.guardian.co.uk/world/2009/feb/06/nuclear-pakistan-khan>. Khan is still under strict security watch.

The fundamental questions debated in this chapter are:

- *how far does the behaviour of an individual member of the elite reflect the behaviour of the state itself and how far does it reflect the international system and its prevailing norms?*
- *whether the sale of nuclear technology resulted from the behaviour of the state itself – overtly or covertly – or whether it was the behaviour of a member of its elite acting on his own?*
- *what role did Pakistani military and civilian authorities play in facilitating Khan's behaviour with regard to nuclear exports?*
- *what were the motives behind Khan's behaviour in breach of global non-proliferation norms and institutions?*
- *what role did international institutions play in constraining the behaviour of Khan or that of the state with regard to nuclear exportation?*
- *does regime theory have any role to play in facilitating analysis of the Khan affair?*
- *what assistance does the three models-based approach offer to this analysis?*

Khan's Behaviour from the 1990s

How does an individual's behaviour relate to that of the state and its obligations towards the international system? Khan's behaviour in nuclear exportation was directly linked to his previous role in the importation of nuclear technology. Pakistan had provided Khan with a considerable degree of autonomous power and independence since he started work on the enrichment plant. Khan did make real progress with his centrifuge project after procuring all the necessary components from Europe. As a

result, he gained even more autonomy and power under the regime of General Zia. Most importantly, KRL (unlike the PAEC) was not accountable to the government. It was a situation which President Zia had encouraged to maximize the speed of nuclearization in Pakistan and to accord Khan a free hand. As the realist argument suggests, states may go to very great lengths to protect their security needs, which is exactly what Pakistan did under General Zia.

Inheriting such independence, KRL went beyond its responsibilities and mandate such as probably designing bombs as well as ‘developing trigger mechanisms reducing uranium gas into metal and working on the design assembly itself’.¹⁰ KRL was working in parallel with PAEC. On the other hand, the chief government scientist in this area, Munir Ahmed Khan, was given the task of reporting on A. Q. Khan’s activities. Such intense rivalry led A. Q. Khan to go beyond the government guidelines and operate in extreme secrecy so that his rivals could not monitor or replicate his activities. This level of independence from the bureaucracy facilitated the success of Khan’s programme. When interviewed in 2009, General Beg stated that Khan had been given complete autonomy and freedom to obtain the necessary technology from wherever he could in order to accomplish the task. He dealt directly with Z. A. Bhutto and later President Zia. Nobody apart from Bhutto and Zia knew what he was up to.¹¹ Beg contended that ‘had Dr. Qadeer [Khan] not been given a free hand, he could not have achieved his objective [of giving Pakistan its nuclear bomb]’.¹² It was this extreme latitude that enabled Khan to establish contacts with people and multinational companies from across the globe. Simultaneously, the US alliance with Pakistan against the Soviets in Afghanistan also provided Pakistan with a leverage to procure nuclear-related shipments which subsequently undermined the effectiveness of its import and

¹⁰ ‘Nuclear Black Markets’, *IISS Dossier*, p.65.

¹¹ Mirza Aslam Beg, Interview (Rawalpindi July 2008).

¹² Zahid Hussain, ‘There is a Conspiracy against me by the Jewish Lobby’, *NEWSLINE* (February 2004).

export control organizations. These developments provided A. Q. Khan with a significant personal capability to manage the transition from an import to an export business. Khan was also able to exploit known loopholes in the international counter-proliferation regime.

After Pakistan gained its initial nuclear capability in the 1980s, Khan's focus shifted from development of P-1 centrifuges to the more advanced P-2 centrifuges. As a result, he possessed a surplus inventory of P-1 component centrifuges at KRL. The weakness of export controls on the domestic front and at the global level provided him with the opportunity to export discarded technology for profit. Thus, Khan started a programme of nuclear-related exports after having gained significant expertise in dealing with nuclear suppliers for components from the international market. His main contacts were scientists, but when they were buying material for Khan, they came into contact with people in business. Beg's view was expressed thus in an interview in 2008:

Iranians, maybe Libyans and North Koreans, would have known that Pakistan was stealing, buying and smuggling all the items which were needed for developing a nuclear capability. So, they must have approached these scientists. And what they might have done is told them to go to certain companies for the equipment they needed.¹³

According to Olli Heinonen, in an interview in 2009, Khan occasionally met some of the Iranian scientists who were not high-level contacts.¹⁴ It is important to note that these scientists were probably part of the network. Beg argues that 'you can call them [Khan's associates or black market network or] by any word'; Musharraf calls them the 'underworld'.¹⁵ The former IAEA Director, General Mohammed El-Baradei, stated that 'the network was not a "Wal-Mart" but a "separate, export-oriented branch from an initial import-oriented network and later it became a private subsidiary of the import

¹³ Ibid.

¹⁴ Olli Heinonen, Interview (July 2009).

¹⁵ Hussain, 'There is a Conspiracy against me by the Jewish Lobby'.

network'.¹⁶ Riffat Hussain stated that it was not so much a Khan network as 'a nuclear black market network'. Khan was not sole proprietor. All the countries whose nationals were involved in this network were equally responsible, and are liable to criminal prosecution.¹⁷ This network was already in place and it was this that motivated Khan to gain a personal advantage by pursuing existing channels to sell technology.

What had Khan got to offer? Bruno Tretrais believes that two things were exported: know-how on uranium enrichment and weapons design and centrifugation technology.¹⁸ Khan's revealed clients were Iran, North Korea and Libya. After discussing these cases in detail, the behaviour of the state of Pakistan within the international system will be evaluated.

The case of Iran: Khan's connection with Iran began in the mid-1980s when Iran approached the Pakistan government through official channels.¹⁹ Iran-Pakistan cooperation in the economic and technical sectors was boosted when Pakistan secured oil supplies from Iran. The then Iranian president, Ali Khamenei, paid a visit to Pakistan in 1986.

The Zia regime was keen to maintain good relations with Tehran but there were reasons why it was unwilling to give the Iranians everything for which they asked. To circumvent international scrutiny of its own covert nuclear development and to maintain its strong ties with the US, Pakistan initiated a cautious policy. As the IISS assessment shows, 'Zia did not approve any nuclear dealings with Iran that would involve the

¹⁶ Bruno Tretrais, 'Khan's Nuclear Exports: Was there a State Strategy?', in Henry D. Sokolski (ed.), *Pakistan's Nuclear Future: Worries Beyond War* (January 2008), p.16. <http://www.npec-web.org/sites/all/files/Books/20080116-PakistanNuclearFuture.pdf>

¹⁷ Riffat Hussain, face to face discussion (2009).

¹⁸ Tretrais, 'Khan's Nuclear Exports: Was there a State Strategy?', p.13.

¹⁹ 'Nuclear Black Markets', *IISS Dossier*, p.67.

provision of sensitive technology’.²⁰ The Pakistani ambassador to Iran reported that ‘Zia refused to abide by an Iranian request made in Tehran in January 1988 for mastery of the fuel cycle’.²¹ Furthermore, it is believed that ‘[Zia’s] strong Sunni beliefs and his strategy to increase the role of Sunni Islam throughout Pakistani society and official institutions put him at odds with Iran’s Supreme Leader, Ayatollah Khomeini’.²² When interviewed in 2008, General Beg reported that Iran approached Pakistan near the end of Iran–Iraq war and requested military sales, which were denied by Zia. Beg stated, ‘Yes, they approached [us]. Iran approached [us] for the supply of spare parts and other needed things, a long list ...’ Beg referred mainly to conventional technology. He discussed with Zia whether they were ready to help Iran. ‘General Zia did not agree, so the matter was ended.’²³ This indicates that there was very little chance of finalization of any deal with Iran by Zia’s regime: Zia ‘did not want Iran to get the bomb’.²⁴ Iranian behaviour ran counter to its agreements under the NPT as well as the global anti-proliferation norms. There are two points here. Pakistan’s behaviour as a state was consistent with the arguments of regime theory and the neo-liberals’ cooperation-based approach, in that the government did not finalize a deal with Iran because it wanted to maintain its alliances and cooperation with the US. Secondly, Zia’s behaviour might have reflected domestic norms – thus echoing the constructivists’ approach – such as promoting Sunni beliefs within the state of Pakistan.

However, the Iranians did not stop with Zia’s rebuff. When they were denied any significant deal by Zia, Iranian intelligence explored other ways to acquire Pakistan’s nuclear technology. One contact was made in Switzerland, through Khan’s potential

²⁰ Ibid.

²¹ Tretrais, ‘Khan’s Nuclear Exports: Was there a State Strategy?’, p.18.

²² ‘Nuclear Black Markets’, *IJSS Dossier*, p.67.

²³ Mirza Aslam Beg, Interview (July 2008).

²⁴ Tretrais, ‘Khan’s Nuclear Exports: Was there a State Strategy?’, p.18.

supplier, the German engineer, Gotthard Lerch.²⁵ Iranian officials also met an Indian-born businessman, S. Mohamed Farouq,²⁶ head of an import-export company, SMB Group, and his Sri Lankan nephew, Buhary Syed Ali Tahir. However, Khan's associates Farouq and Tahir were only doing computer business with him, though there is speculation that 'by 1987, both men were ready to act as Khan's agents to promote P-1 centrifuge marketing'.²⁷ In addition to that, Khan's associates were much more interested in making money. The suppliers were busy making money – without realising the implications for global security – while the buyers were meeting their demands. This demonstrates the relevance of Koblenz's parochial interest model: non-state actors build cooperative networks simply to make money. The deal was closed for US \$3 million in Dubai in 1987.²⁸ The intermediaries presented a hand-written first offer, according to the IAEA. This document suggests that the offer was based on:

the delivery of a disassembled sample machine (including drawings, descriptions and specifications for production); drawing, specifications and calculations for a 'complete plant', and materials for 2,000 centrifuge machines. The document also reflects an offer to provide auxiliary vacuum and electric drive equipment and uranium re-conversion and casting capabilities.²⁹

After the payment of US \$3 million for this deal, money was distributed within the network.³⁰ Two conclusions may be drawn from this incident. First, it was a business network which was seeking to make money. Corera believes that the network could have been selling on the design given by Khan to procure components for him when he was still importing for KRL.³¹ Second, Khan possessed the inventory of discarded centrifuges which he might have sold to his associates – the network – who proceeded

²⁵ 'Nuclear Black Markets', *IISS Dossier*, p.67.

²⁶ S. Mohamed Farouq should not be confused with Muhammad Farooq, who worked at KRL as a centrifuge expert.

²⁷ 'Nuclear Black Markets', *IISS Dossier*, p.69.

²⁸ Corera, *Shopping for Bombs*, p.60.

²⁹ Quoted in Clary, 'The A. Q. Khan Network: Causes and Implications', p.40.

³⁰ Corera, *Shopping for Bombs*, p.66.

³¹ *Ibid.*

to distribute the parts further. The money involved was too small for the Pakistan state itself to have been an interested party.

It is important to note that it was not only Khan who was approached by the Iranians when they were procuring materials through state-level deals or from the black market. Iran tried to procure certain items piece by piece from the international market rather than procuring whole facilities, because buying individual parts was cheaper and more cost effective. The IAEA believed that, by using Khan's shopping list, the Iranians instead went to European, Chinese, and Russian sources first to procure the equipment at cheaper prices.³² It is probable that some of Khan's associates, such as Hans Slebos,³³ were already delivering components to Iran while supplying the same technology to Pakistan.³⁴ This trail of evidence suggests that a relatively extensive business network was involved in this international trade.

In 1989, after Rafsanjani was elected President of Iran, he explored ways to seek technology from China, North Korea, Libya and other states.³⁵ In the 1980s, Iran had secured a deal worth US \$500 million with North Korea, for missiles, other hardware and mining uranium.³⁶ President Rafsanjani paid a visit to North Korea in 1993, seeking further help for missiles. Iran's association with China and the former Soviet Union is well established.³⁷ Russia proliferated nuclear technology and missiles to Iran, constructed and fuelled the Bushehr reactor and provided Iran with conventional

³² Clary, 'The A. Q. Khan Network: Causes and Implications', p.40.

³³ Khan's close friend who helped him thorough out in his proliferation activities. Both had known each other since Khan shifted his subject from aerospace to metallurgy at Delft technical University in 1963. It was Slebos who informed Khan regarding an opening post for a metallurgist in FDO and helped him to move to Louvain, Belgium. informed him regarding an opening post for a metallurgist. More details can be found in Joop Boer, et.al., 'A.Q.Khan, Urenco and the proliferation of nuclear weapons technology'. <http://www.greenpeace.org/raw/content/international/press/reports/a-q-khan-urengo-and-the-prol.pdf>

³⁴ Zahid Malik, *Mohsin-e-Pakistan ki Debriefing (Debriefing of A.Q. Khan)* Urdu Version, pp.133-4.

³⁵ Corera, *Shopping for Bombs*, p.62.

³⁶ Ibid.

³⁷ Ibid.

weapons.³⁸ It is on record that ‘Iran, among others tried to exploit Russia’s nuclear security problems by attempting to acquire fissile materials’.³⁹

Iran procured some of the material it needed through the Khan network but by no means exclusively. The Iranians operated ‘perhaps the largest global network of front companies of any nation, far bigger even than Pakistan’.⁴⁰ It obtained items from Europe such as ‘high-strength aluminium, maraging steel, electron beam welders, balancing machines, vacuum pumps, computer-numerically controlled machine tools, and flow-forming machines for both aluminium and maraging steel’.⁴¹ Furthermore, from China, Iran obtained hexafluoride. China also supplied a 27kWt miniature neutron source reactor (MNSR), 900g of highly enriched uranium (HEU) fuel and heavy water in 1991;⁴² copper laser in 1994;⁴³ and heavy water and highly enriched uranium fuel in 1994.⁴⁴ India was also an extensive source for Iranian nuclear developments. Indian scientists paid visits to Iran and Iranian scientists to the Indian nuclear sites. Y. S. Parsad, an Indian scientist who worked for the Nuclear Power Corporation of India (NPCIL), is believed to have provided extensive help to Iran for building its power plants.⁴⁵ Thus the Iranian record is not clean and it has tested global anti-nuclear norms; yet it agreed to the NPT rules in the past. Indeed, Iran’s ability to make purchases from Western firms reveals clearly that the export controls in early 1990s were only partially successful. Since it remains part of the NPT, Iran continues to act as an overt violator of

³⁸ Edward J. Markey, ‘Russia, Iran, and Nuclear Weapons: Implications of the Proposed US–Russia Agreement’, testimony presented before a Hearing of the House Foreign Affairs Committee (12 June 2008) available at <http://foreignaffairs.house.gov/110/mar061208.pdf>

³⁹ Department of Energy MPC&A Program: Strategic Plan, Washington, (July 2001), p.2.

⁴⁰ Corera, *Shopping for Bombs*, p.67.

⁴¹ Clary, ‘The A. Q. Khan Network: Causes and Implications’, p.40.

⁴² Andrew Koch and Jeanette Wolf, Appendix: selected Iranian nuclear imports, *Center for Nonproliferation Studies* (1998) <http://cns.miis.edu/reports/pdfs/irantbl.pdf>

⁴³ Iran sought this help to run its Ibn e-Heysam research Laboratory complex. For more details see Mark Hibbs, ‘German–US Nerves Frayed Over Nuclear ties to Iran’, *Nuclear Fuel* (14 March 1994), p.10.

⁴⁴ Mark Hibbs, ‘US warned not to try Using IAEA to Isolate or Destabilise Iran’ (8 Oct. 1992), p. 10.

⁴⁵ Maria Sultan, ‘Iran, Proliferation Magnet’, *SAIS Review*, Vol.25, No.1 (Winter-Spring 2009), p.132.

international norms and agreements. Iran's behaviour illustrates the realist argument that on occasion states are prepared to breach agreed rules to secure their relative gains.

Iran's attempts to penetrate Pakistan and gain nuclear expertise from this source continued after the death of General Zia. There is speculation that the Iranians approached General Aslam Beg, Chief of the Army Staff, and that he was prepared to endorse Pakistan–Iran cooperation. When interviewed in 2009, Riffat Hussain contended that Iran aggressively pursued Beg to provide its scientists with technological assistance.⁴⁶ There is speculation that 'Beg supported Iran's bid to acquire nuclear weapons',⁴⁷ although 'his direct involvement is unconfirmed'.⁴⁸ Beg maintains that Benazir Bhutto had been approached by the Iranians with a proposition worth US \$4 billion and that Iran was even willing to pay US \$6 billion or more.⁴⁹ Benazir informed him that the Iranians had offered four billion dollars for nuclear technology.⁵⁰ However, he strongly denies that any state level proliferation was authorized to Iran.⁵¹ There are reports that in 1991 an agreement was reached between General Asif Nawaz, Rafsanjani and General Mohsen Rezai,⁵² which included nuclear weapons technology in exchange for Iranian oil.⁵³ However this deal was not approved by the President or the Parliament of Pakistan.⁵⁴ When interviewed in 2009, Olli Heinonen noted that Beg and Rafsanjani might have had joint security concerns with Iraq under Saddam Hussein. It was clearly

⁴⁶ Riffat Hussain, Interview (2009).

⁴⁷ Bhumitra Chakma, *Pakistan's Nuclear Weapons*, p.114.

⁴⁸ 'Nuclear Black Markets', *IJSS Dossier*, p.69.

⁴⁹ Kathy Gannon, 'Iran Sought Advice in Pakistan on Attack', *Associated Press* (12 May 2006). Kathy Gannon, 'Explosive Secrets from Pakistan', *Los Angeles Times* (16 May 2005).

⁵⁰ Tretrais, 'Khan's Nuclear Exports: Was there a State Strategy?', p.19.

⁵¹ General Mirza Aslam Beg, Interview (July 2008).

⁵² Mohsen Rezaei was head of the Iranian Revolutionary Guards.

⁵³ 'Nuclear Black Markets', *IJSS Dossier*, p.70.

⁵⁴ Nawaz Sharif and Ghulam Isaq Khan told Rafsanjani that the deal was not approved of by the Parliament and Pakistan would not implement it.

not in the interest of Pakistan to ‘expand Saddam Hussein’s sphere’.⁵⁵ This could explain the apparent similarity of interests between Iran and Pakistan at this time.

It is possible that Beg tried to forge a partnership with Iran in order to defend both Iran and Pakistan from the US, a projected partnership which, however, was not approved of by the government. In 2009 interview General Ehsan agreed that Beg’s idea of ‘strategic defiance’ [a partnership of three states (Iran, Afghanistan and Pakistan)] never became the national policy of Pakistan.⁵⁶ There is also possibility that Iran approached the government of Pakistan through Beg. However, when Beg approached the government to deal with the Iranians, the government declined. As Lancaster and Khan highlighted in 1991, General Beg tried to convince Nawaz Sharif, the then Prime Minister, to establish nuclear cooperation with Iran⁵⁷ but Nawaz’s government did not approve the plan.⁵⁸ However, Beg denies all allegations of ever having had any control over A. Q. Khan – ‘a role he assigned to former Prime Minister Benazir Bhutto (1988–1990, 1993–1996) and former President Ghulam Ishaq Khan (1988–1990)’.⁵⁹

It is clear that the Iranians did approach Pakistan, either directly or with Beg’s assistance, but the government of Pakistan did not finalise any deal with them regarding nuclear technology. It also seems that Beg was not involved in making any deal directly with Iran through A. Q. Khan. If Beg had sought to promote Khan’s cooperation with Iran, this would have withered away with the change of leadership and Beg’s retirement. In reality, Iran–Pakistan cooperation continued even after the change of leadership, which indicates that A. Q. Khan played a pivotal role in his individual

⁵⁵ Olli Heinonen, Interview (2009).

⁵⁶ General Ehsan, Interview (2009).

⁵⁷ John Lancaster and Kamran Khan, ‘Senior Pakistani Army Officers Were Aware of Technology Transfer’, *Washington Post* (3 February 2004).

⁵⁸ Interviews, list in Appendix I.

⁵⁹ ‘Pak Army Never Controlled Nuclear Program: Mirza Aslam Beg’, *Press Trust of India* (11 Feb. 2004); also quoted in Richard P. Cronin et al., ‘Pakistan’s Nuclear Proliferation Activities’, p.28.

capacity. Beg also confirmed that contacts with Iran continued after Benazir Bhutto's departure from office in August 1990.⁶⁰ However, no evidence exists indicating that Khan was directed by subsequent governments to provide Iran with nuclear technology.

In his interview in 2009, General Ehsan commented that:

Khan acted entirely in his personal capacity. No institution of Pakistan, or the state itself, was involved. Nor is there any evidence to corroborate the accusations that Khan has been throwing out against everybody ... When Khan was put under house arrest he was subjected to debriefings by a military government. So he had to accuse the military. He had to say that 'the military used me' and 'I was not acting on my own'.⁶¹

However, while the Iranians failed to make a deal at state level, they may indirectly have approached Khan for assistance in developing their nuclear programme. Iran has claimed that there were no contacts with the Khan network between 1987 and mid-1993,⁶² when Tahir offered to supply it with P-1 designs and components for 500 P-1⁶³ machines, as well as drawings for the more advanced P-2 centrifuges.⁶⁴ Subsequently, Iranian officials met Tahir and Farouq in Dubai to finalize a deal with an initial payment of US \$3 million and deliveries started in 1994.⁶⁵ According to Clary, Iranian sources reveal having met with Khan's network thirteen times between 1994 and 1999.⁶⁶

Olli Heinonen stated in interview in 2009 that the Iranians:

got somewhere in 1994 which they call the second deal after 1987. This deal was a different deal because it had a lot of equipment, paper drawings of P-II centrifuges and apparently some documentation related to nuclear weapons. They could have come from 1987 but when we look at the evidence, they are more likely to be from 1994. Some people must have known [about it] and it is unbelievable that someone could get such access to nuclear weapons-related technologies and drawings without official knowledge.⁶⁷

⁶⁰ Tretrais, 'Khan's Nuclear Exports: Was there a State Strategy?', p.21.

⁶¹ Gen Ehsan, Interview (2009).

⁶² 'Nuclear Black Markets', *IISS Dossier*, p.70.

⁶³ This quantity of P1 Centrifuges would only produce around one quarter of a bomb's worth of weapons-grade uranium in a year.

⁶⁴ 'Nuclear Black Markets', *IISS Dossier*, p.70.

⁶⁵ Ibid.

⁶⁶ Clary, 'The A. Q. Khan Network: Causes and Implications', p.45.

⁶⁷ Olli Heinonen, Interview (2009).

Iran claimed at first to the IAEA in 2003 that the centrifuges which it had were indigenous; but when the IAEA traced HEU particles and produced the evidence, Iran acknowledged the foreign origin of the centrifuges.⁶⁸ However, the centrifuges which Iran imported were damaged and of poor quality.⁶⁹ Iran had less reliance on A. Q. Khan as a result of the trouble experienced with the centrifuges, and pursued other suppliers for the required components and material.⁷⁰ Iran sought to procure 4,000 magnets for P-2 centrifuges from a European intermediary.⁷¹ It later claimed that none of this delivery was actually received, 'but other magnets related to P-2 centrifuges were purchased from other foreign suppliers in 2002'.⁷²

Heinonen stated:

... most of the drawings which we have seen actually originated from A. Q. Khan so these are his own designs which were never built. So in that sense someone could have kept some drawings of this device but it may not [in fact] work.⁷³

In 2005, Iran showed the one-page handwritten offer and the 15-page design document to the IAEA, reflecting an offer made to Iran by a foreigner in 1987⁷⁴ but, as of April 2007, it had not 'allowed it to take the original back to Vienna, where [it] could be subject[ed] to forensic examination to provide further clues as to their origin'.⁷⁵ Furthermore, in 2005, Iran also showed the IAEA other documents relating to the 1987 offer, including drawings of components and assemblies of P-1 centrifuges; technical documents describing manufacturing, assembly and operational procedures; diagrams of research centrifuge cascades; and a design layout for six cascades of 168 machines

⁶⁸ 'Nuclear Black Markets', *IISS Dossier*, p.70.

⁶⁹ Ibid. pp. 70–71.

⁷⁰ Riffat Hussain, Interview (July 2009).

⁷¹ An Iranian contractor acknowledged this. 'Nuclear Black Markets', *IISS Dossier*, p.71.

⁷² Ibid.

⁷³ Olli Heinonen, Interview (Tucson: July 2009).

⁷⁴ Document Reported by the Director-General IAEA, 'Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran', GOV/2006/15 (27 February 2006).

⁷⁵ 'Nuclear Black Markets', *IISS Dossier*, p.69.

each.⁷⁶ It is important to note that Iran has declined the Agency's request to provide a copy of the one-page document. For the Iranians, this document was the only remaining evidence of the offer and no other evidence such as minutes of meetings, documented reports or statements of the offer exist. According to the Iranians, 'only some components of one or two disassembled centrifuges, and supporting drawings and specifications, were delivered by the network, but ... a number of other items of equipment referred to in the document were purchased directly from other suppliers'.⁷⁷

Iran also declined to reveal any documentation or information regarding the acquisition of 500 sets of P-1 centrifuge components in the mid-1990s which the IAEA is still investigating. Iran admitted that 'as a result of the discussions held with ... intermediaries in the mid-1990s, the intermediaries supplied only drawings for P-2 components containing no supporting specifications, and that no P-2 components were delivered by the intermediaries along with the drawings or thereafter'.⁷⁸ Iran also stated that 'no work was carried out on P-2 centrifuges during the period 1995 to 2002, and that at no time during this period did it ever discuss with the intermediaries the P-2 centrifuge design, or the possible supply of P-2 centrifuge components'.⁷⁹ In November 2005, Iran was pressured to provide evidence on whether any deliveries of P-1 or P-2 components had been made after 1995. It stated in February 2006 that 'no such deliveries [had been] made after 1995'.⁸⁰ However, Iran has not provided any additional information or related documents so far with respect to its statement that it did not pursue any work on the P-2 design between 1995 and 2002.

⁷⁶ Ibid.

⁷⁷ Document Reported by the Director-General IAEA, 'Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran', GOV/2006/15 (27 February 2006).

⁷⁸ Ibid.

⁷⁹ Ibid.

⁸⁰ Ibid.

In 2006 Tahir admitted to the IAEA without any documentation that ‘three complete P-2 centrifuges’ were delivered to Iran in 1997 as a model.⁸¹ Iran also accepted that P-2 designs came from the Khan Network but further revealed that it received no P-2 from abroad and no work was carried out on P-2 prior to 2002.⁸² There is speculation that Iran may have procured a programme for P-2 centrifuges. Iran, however, manufactured its own centrifuge components and constructed two facilities in Natanz. It established a pilot plant at Natanz designed to hold six cascades of 134 machines each.⁸³ These facilities include an above ground pilot plant designed for 1,000 centrifuges and an underground facility with a plan to hold 54,000 centrifuges. However, Iran has continuously denied receiving any nuclear weapons design assistance from Khan’s Network. Pakistan has also vehemently denied such assistance to Iran. In his report, the Director-General of the IAEA revealed that enrichment traces found in Iranian possession indicate that the sources were not all from the same country.⁸⁴ He noted that evidence from Iran indicated level of enrichment traces of 36 percent, 54 percent and 70 percent.⁸⁵ Maria Sultan considers that levels of enrichment traces of 36 percent indicate Russian involvement.⁸⁶

Heinonen stated that ‘we will come to know as we are still investigating the Iranian case’,⁸⁷ but added that ‘Pakistan is not our problem; our problem is Iran, which is a party state to the NPT’.⁸⁸ While remaining a party to the NPT, Iran violated its non-proliferation compliance by seeking to procure nuclear-related materials either from other states or from the black market. Its conduct illustrates that certain of the realist

⁸¹ ‘Nuclear Black Markets’, *IISS Dossier*, p.71.

⁸² *Ibid.*

⁸³ *Ibid.*, p.69.

⁸⁴ Report by the DG IAEA, ‘Implementation of the NPT safeguards Agreement in the Islamic Republic of Iran’, IAEA (15 Nov 2004).

⁸⁵ *Ibid.*

⁸⁶ Maria Sultan, ‘Iran, Proliferation Magnet’.

⁸⁷ *Ibid.*

⁸⁸ *Ibid.*

arguments are relevant: states aim to maximize their relative power position in the international system and they may cheat in so doing. In contrast, the assumption of constructivists that institutions and norms are socialization processes in which a 'logic of appropriateness', not interests or rational expectations, determines institutional purpose and shapes compliance holds little relevance to the Iranian situation. Regime theory also appears to fail in the case of Iran. The non-proliferation regime failed because the institutions were too weak to constrain Iran's behaviour as a party to the NPT. Regime theory also fails in the case of Pakistan in this period, although it is also important to recall that it was not a member of the NPT; the behaviour of an individual rogue scientist would not have adversely affected the non-proliferation regime had that regime itself been sufficiently robust. However, Pakistan as a state sought normalized relations with the US and the global community and it was evident that the behaviour of an individual member of its scientific elite adversely affected Pakistan's reputation and its position in the world. The argument presented here is that Pakistan's institutional controls were weak, its security was lax and it had developed a blind trust in A. Q. Khan, which in the case of Iran gave him the latitude to behave against the state's interests.

The case of North Korea: It is believed that Pakistan–North Korea relations were established as early as 1971. Z. A. Bhutto started full diplomatic relations with North Korea in 1976, when he paid a visit to Pyongyang. However Bhutto's 'Asian Cooperation policy' lost significance after his ousting by Zia in 1977. Zia's policies shifted when the US lifted sanctions on Pakistan in 1981 after which Pakistan secured good relations with the US and received economic and military help, while fighting against the Soviet Union in Afghanistan.

However, after the disintegration of the Soviet Union new factors emerged in Pakistan's security calculus. Pakistan lost all hope of acquiring any help from Europe after the implementation of the MTCR because all the European states were signatories. European export control policies were strengthened under the NSG and ZC. The US and multinational efforts from 1987 onwards to strengthen export controls in dual use technologies and to restrict trade related to ballistic and cruise missiles created a difficult context for Pakistan to gain any further help it required from Europe. In order to meet India's emerging missile threat, Pakistan had to develop its own capabilities with foreign assistance. It had to secure a nuclear strike capability against India and it needed to develop a ballistic missile force. Thus, it is believed that Pakistan acquired a limited number of M-11 ballistic missiles from China in the early 1990s.⁸⁹ According to Olli Heinonen, when interviewed in 2009, 'these missiles Pakistan required for Kashmir'.⁹⁰

It is assumed that Pakistan–North Korean cooperation for ballistic missile technology started in early 1992.⁹¹ In December 1993, Benazir Bhutto paid a visit to North Korea seeking conventional arms and defence cooperation during this visit.⁹² The Nodong ballistic missile system, capable of delivering a 700-1,000kg payload over a distance of 1,000-1,300 km was the main requirement of Pakistan.⁹³ Benazir Bhutto said, 'when I went to North Korea, A. Q. Khan told me we can get their [missile] technology [so] that we can compare [it] to our own. So I took it up with Kim II Sung'⁹⁴ Bhutto finalized a missile deal with North Korea and later stated,

⁸⁹ 'Pakistan', *Foreign Missile Developments and the Ballistic Missile Threat Through 2015*, pp.24-25.

⁹⁰ Olli Heinonen, Interview (2009).

⁹¹ Joseph S. Bermudez, Jr., 'A History of Ballistic Missile Development in the DPRK,' Occasional Paper No.2, *Monterey Institute of International Studies* (November 1999) pp.21-24.

⁹² Tretrais, 'Khan's Nuclear Exports: Was there a State Strategy?', p.23.

⁹³ 'Pakistan special weapons guide. Missiles', Federation of American Scientists:
<http://www.fas.org/nuke/guide/pakistan/missile/index.html>

⁹⁴ Corera, *Shopping for Bombs*, p.89. See also *The Rediff Interview/Benazir Bhutto*,
<http://www.rediff.com/news/2004/mar/10inter.htm>

‘[w]e did not obtain missiles in exchange for nuclear technology. Whatever the technology was, we bought it with money.’⁹⁵ Later Musharraf also revealed ‘whatever we bought from North Korea is with money’.⁹⁶ On the other hand, Kim Il-Sung’s aide stated that a deal was finalized in the summer of 1996⁹⁷ and centrifuges were transferred to North Korea between 1997 and 1999 while other transfers were made until July 2002.⁹⁸ This clearly shows that Khan may have established his own channels for technology transfer. The missile cooperation between Pakistan and North Korea was diagnosed in 1997–1998, particularly when Pakistan tested its Ghauri missile (April 1998). Subsequently, the US State Department placed sanctions on North Korea.⁹⁹ When US authorities raised the issue of a missile for uranium technology trade with Nawaz Sharif, the then Prime Minister, he denied any knowledge of it.¹⁰⁰ Musharraf revealed in his autobiography that in early 1999, as Army Chief, he came to know that some North Korean experts (missile engineers) had been given secret briefings at KRL.¹⁰¹ When Khan was later summoned and asked directly by Musharraf, he initially denied the charge.¹⁰²

After Khan was arrested in 2004, he admitted having transferred centrifuges and related technology to North Korea in the late 1990s.¹⁰³ Khan accepted responsibility that he had supplied ‘old and discarded centrifuge and enrichment machines together with sets of drawings, sketches, technical data and depleted Hexafluoride (UF₆) gas to

⁹⁵ Tretrais, ‘Khan’s Nuclear Exports: Was there a State Strategy?’, p.24. See also Corera, *Shopping for Bombs*, p.89.

⁹⁶ Sharon Squassoni, ‘Weapons of Mass Destruction: Trade Between North Korea and Pakistan’, *CRS Report* RL39100.

⁹⁷ Tretrais, ‘Khan’s Nuclear Exports: Was there a State Strategy?’, p.24. Corera, *Shopping for Bombs*, p.92.

⁹⁸ Tretrais, ‘Khan’s Nuclear Exports: Was there a State Strategy?’, p.25.

⁹⁹ Gaurav Kampani, ‘Second Tier Proliferation: The Case of Pakistan and North Korea’, p.110.

¹⁰⁰ David, E. Sanger, ‘In North Korea and Pakistan, Deep Roots of Nuclear Barter’, *The New York Times* (24 November 2002).

¹⁰¹ Musharraf, *In The Line of Fire* (London: Simon & Schuster Ltd, 2006), pp.286–7.

¹⁰² *Ibid.*, p.287.

¹⁰³ ‘Nuclear Black Markets’, *IISS Dossier*, p.72. David Sanger, ‘Pakistani Says He Saw North Korean nuclear Devices’, *The New York Times* (13 April 2004).

North Korea'.¹⁰⁴ It is revealed that 'probably dozens of centrifuges were exported to North Korea by Khan',¹⁰⁵ but there was no evidence that Khan had passed on bomb designs to North Korea. Musharraf later revealed that 'Khan transferred nearly two dozen centrifuges (P-1 and P-2) to North Korea'.¹⁰⁶ It is speculated that Khan also provided North Korea with a shopping list with which to approach other suppliers.¹⁰⁷

North Korea represents a different case from that of Iran. Iran had only money to offer while North Korea had missile technology. In the case of Iran, the Pakistan government was not involved because it wished to maintain good relations with the US, whereas in the case of North Korea, the Pakistan government entered into a conventional missile deal with money which may have opened ways for Khan to go beyond this deal. In the deal which was made by Bhutto, Pakistan states that it paid US \$210 million for the entire missile package. Pakistani military officials maintain that Khan was not authorized to transfer nuclear technology to North Korea. If he did so, he was acting in a personal capacity in order to meet deadlines in competition with PAEC.¹⁰⁸ Clary concludes that 'none of the state-level explanations are entirely compelling, and more weight should be given to individual or institutional rationales for Khan's assistance to Pyongyang'.¹⁰⁹ It is also argued that 'Khan was so desperate for continued help in developing his missiles that he was willing to trade nuclear secrets on a private basis for assistance'.¹¹⁰ However, when interviewed in 2009, Olli Heinonen claimed that 'it was a ministerial level deal. It is hard to believe that it was only Khan [who was involved]; there must be some people who knew about it. Perhaps there are

¹⁰⁴ Clary, 'The A. Q. Khan Network: Causes and Implications', p.54. 'Nuclear Black Markets', *IISS Dossier*, p.72.

¹⁰⁵ David E. Sanger, 'Pakistani Leader Confirms Nuclear Exports', *New York Times* (13 September 2005).

¹⁰⁶ Pervez Musharraf, *In The Line of Fire*, p.294.

¹⁰⁷ David E. Sanger, 'Pakistani Says He Saw North Korean Nuclear Devices', *New York Times* (13 April 2004). Also see 'Nuclear Black Markets', *IISS Dossier*, p.73.

¹⁰⁸ Corera, *Shopping for Bombs*, p.96.

¹⁰⁹ Clary, 'The A. Q. Khan Network: Causes and Implications', p.54.

¹¹⁰ Corera, *Shopping for Bombs*, p.96

no agreements between states but this is a ministerial level deal ... It was a state to state deal.’¹¹¹

The evidence outlined above is capable of two interpretations. The first is that it was a state-to-state deal between North Korea and Pakistan. The then Prime Minister, Benazir Bhutto, may have authorised the initial transfers which were later extended by Khan in his personal capacity. If so, Khan alone cannot be blamed for this deal. However, the motives behind such collaboration were clearly security-driven. While India was surging ahead with its ballistic missile developments, Pakistan had to pursue its own options to meet the Indian security threat when even the US had stalled the delivery of F-16 aircraft for which Pakistan had already paid. The government of Pakistan may have encouraged both the PAEC and KRL to develop missiles that were more advanced and sophisticated, but it needed urgently to obtain the Nodong missile because of its long-range capability which was helpful to counter the Indian missiles. Therefore, Benazir sought a deal with North Korea in order to obtain the Nodong missiles. Corera maintains that from January 1997 to March 1998 North Korea supplied twelve missile components to Pakistan.¹¹² Thus in April 1998, Khan tested it as the Ghauri missile and made his contribution beyond uranium enrichment and defeated the PAEC by delivering a long-range missile. This also reflects inherited Khan’s thirst for power.

The alternative interpretation is that a deal for money provided the way for Khan to have direct links with North Korea to operate and buy missile technology. There is a possibility that Khan went ahead with his deals secretly. Pakistan required missiles to meet its security requirements against the Indian threat and Khan was privileged to have an autonomous role to counter the PAEC and boost his credentials in the eyes of the

¹¹¹ Olli Heinonen, Interview (July 2009).

¹¹² Corera, *Shopping for Bombs*, p.90.

Pakistani nation. Both the PAEC and KRL had their own missile programmes. The Chinese M-II deal was run by the PAEC while Khan wanted to develop his own rival missile system to enhance his status, prestige, and indeed, funds. Musharraf states that ‘we were unable to get a firm control on KRL’ until Khan was retired as its chairman on 30 March 2001, which ‘effectively cut [him] off from his base’. Khan, he argues, was not “part of the problem” but “the problem” itself.¹¹³ It is argued here that in the later stages of his career Khan may have made unauthorized deals while claiming to operate under the authority of the government. If these deals had been part of government policy, then why was Khan removed from the chairmanship of KRL by Musharraf’s government?

This case reflects Koblenz’s security model and the parochial interest model. These models predict that states build nuclear cooperation and share nuclear technology to meet their security needs while actors and companies share technologies to meet their own parochial or economic interests. According to the argument presented here, regime theory does not fail completely in the case of North Korea: it was a party to the NPT, but international institutions were insufficiently robust to constrain its behaviour. The realist argument, that cooperation is difficult to achieve and difficult to sustain because of relative gains and cheating, seems to be exemplified in this case. States such as North Korea think in terms of absolute gains to maximize their own profits and pay less attention to partners’ gains or losses. Realism’s fear of cheating as the most important element sustaining but also threatening international cooperation is also well exemplified in North Korea’s attitude to its obligations under the NPT: it undermined the principles of the treaty during its dealings with A. Q. Khan, and then, on 10 January 2003, withdrew altogether from the NPT. Subsequently, with its nuclear tests on 9

¹¹³ Ibid. p.288.

October 2006 and 25 May 2009, it deliberately flouted the principles of the treaty to which it had previously subscribed.

The Case of Libya: With regard to Libya's relations with Pakistan, it is well known that Z. A. Bhutto had very close ties with Muammar Abu Minyar al-Gaddafi. It is believed that Libya established relations with Pakistan in the early 1970s.¹¹⁴ The IISS dossier further reveals that Pakistan secured financial support from Tripoli and 450 tonnes of yellow cake, which Libya imported from Niger.¹¹⁵ Libya gave \$100-\$500 million in the hope that Pakistan would assist it with regard to weapons technology.¹¹⁶ However, relations between Pakistan and Libya ended after Zia took power in 1977.¹¹⁷ At the same time, the Soviet Union agreed to provide Libya with a 440,000-kilowatt nuclear power plant and in return Libya was to pay US \$330 million of its oil earnings for the plant.¹¹⁸ At the level of state-to-state agreement, Pakistan only agreed to provide Libya with 'training for personnel at PINSTECH and no more'.¹¹⁹

Libya failed to make any progress in building even a civilian nuclear infrastructure due to a lack of indigenous skilled manpower, and so turned to the black market. In 1989, a Libyan minister got in touch with A. Q. Khan and they struck a deal for a small amount of equipment that was delivered to Dubai from Pakistan. Olli Heinonen contended that this was believed to be a 'minister level contact and ... state to state level contact'.¹²⁰ The deal fell through because of economic sanctions. The equipment must have remained in Dubai, where Khan's associates were trying to

¹¹⁴ Chakma, *Pakistan's Nuclear Weapons*, p.108.

¹¹⁵ 'Nuclear Black Markets', *IISS Dossier*, p.76.

¹¹⁶ Ibid. Anthony Cordesman, 'Weapons of Mass Destruction in Middle East', Centre for Strategic and International Studies (15 April 2003).

¹¹⁷ Bowen, 'Libya and Nuclear Proliferation: Stepping Back from the Brink', Adelphi Paper, London IISS/Routledge 2006, p.31.

¹¹⁸ Libya Power Plant, *The Washington Post* (4 October 1978).

¹¹⁹ Ibid.

¹²⁰ Ibid.

forward it, but Libya was not able to import it.¹²¹ International export controls and safeguards made it difficult for Libya to pursue its nuclear programme until the mid-1990s.

Libya sought to revive its nuclear programme in 1995. It seems that Libya approached Khan when he, along with his colleague in proliferation, Tahir, met two Libyan officials.¹²² Corera maintains that the meetings continued for the next five years.¹²³ It is also argued that technology transfers took place in the same year.¹²⁴ When interviewed in 2009, Olli Heinonen stated that it was in 1995 that Libya was once again shopping and ended up with a bigger deal with Khan. He claims that deal was at ministerial level,¹²⁵ but the evidence is yet to be seen. When Pakistani officials were asked, they vehemently denied the existence of any government level deal.¹²⁶ Instead, they categorically stated that it was Khan's business and an activity of the global black market.¹²⁷

IISS assessment indicates that the first sale was made to Libya in 1997 after it had contacted Khan for assistance in gas centrifuges.¹²⁸ That year, it received 20 P-1 Centrifuges and components for a remaining 200. Later, Khan sold 200 P-1 centrifuges, process gas feed and withdrawal systems, uranium hexafluoride cylinders and frequency convertors.¹²⁹ Some of the components were supplied to Libya by the network from outside Pakistan, which means that the whole network was making money. In 2000, two complete L2 centrifuges and two small cylinders of UF₆¹³⁰ were delivered. It is worth

¹²¹ Ibid.

¹²² Corera, *Shopping for Bombs*, pp.107-8. Chakma, *Pakistan's Nuclear Weapons*, p.109.

¹²³ Corera, *Shopping for Bombs*, p.108.

¹²⁴ Bowen, 'Libya and Nuclear Proliferation', pp.30-43.

¹²⁵ Olli Heinonen, Interview (2009).

¹²⁶ Asif Durrani, Former Head, Disarmament Cell, Ministry of Foreign Affairs, Deputy High Commissioner Pakistani High Commission, Interview (July 2009). Gen. Ehsan, Interview (2009).

¹²⁷ Ibid.

¹²⁸ 'Nuclear Black Markets:', *IISS Dossier*, p.76-77.

¹²⁹ David Albright and Corey Hinderson, 'The A. Q. Khan Illicit Nuclear Trade Network', p.115.

¹³⁰ Tretrais, 'Khan's Nuclear Exports: Was there a State Strategy?', p.26.

noting that Libya placed an order for 10,000 P-2 centrifuges from the network.¹³¹ Libya also secured an extensive range of tools, equipment and furnaces which mainly came from Europe, in particular Spain and Italy, via Dubai.¹³²

Khan with his associates met two Libyan officials again in Istanbul in 1997.¹³³ The Libyans showed some dissatisfaction with the difficulties they had encountered. Thus, in September 2000, a sample model for P-2 centrifuges arrived in Libya including designs for a plant, twenty tons of UF₆ and almost all the necessary parts and equipment.¹³⁴ However, when the Libyan programme ended in December 2003, the material that had arrived was still insufficient to assemble complete P-2 centrifuges.

Libya abandoned its nuclear and chemical weapons programmes on 19 December 2003. The arguments of regime theory and the neo-liberals are exemplified in the surprise announcement following nine months of closed-door negotiations between Libyan, American and British officials. Libya suddenly decided to abide by the NPT, allowing for immediate inspections and monitoring.¹³⁵ The White House hailed Libya for its cooperation and stated that its good faith in dismantling weapons would be reciprocated. Libya's new policy based on cooperation ended two decades of international isolation and US sanctions.

Subsequently, the IAEA learnt that from Libyan officials that gas centrifuge technology, equipment and manufacturing instructions along with bomb designs were procured from Khan's network.¹³⁶ Between 1997 and 2003, it is claimed that 'Tripoli obtained a substantial number of centrifuges, as well as some amounts of uranium hexafluoride, and, alarmingly enough, a nuclear weapon design from the Khan

¹³¹ Albright and Hinderson, 'The A. Q. Khan Illicit Nuclear Trade Network', pp.115-16.

¹³² Albright and Hinderstein, 'Unravelling the A. Q. Khan and Future Proliferation Networks', p.116.

¹³³ Chakma, *Pakistan's Nuclear Weapons*, p.109. Corera, *Shopping for Bombs*, p.108.

¹³⁴ Corera, *Shopping for Bombs*, p.109.

¹³⁵ <http://www.globalsecurity.org/wmd/world/libya/nuclear.htm>

¹³⁶ Chakma, *Pakistan's Nuclear Weapons*, p.108.

network'.¹³⁷ Khan offered a turnkey gas-centrifuge facility,¹³⁸ which presumably he had previously discarded. The IISS dossier reveals that Khan supplied Libya with 20 complete P-1 aluminium rotor centrifuges and components for additional 200 centrifuges.¹³⁹ Chakma states that in 2000 Khan also supplied 'P-2 maraging steel centrifuges to North Korea for testing',¹⁴⁰ but the big order did not go through because Libya renounced its programme.

Summing up, from the analysis of the (admittedly incomplete) evidence presented above, it can be seen that the government of Pakistan did not play a responsible role in giving extensive privileges to one particular member of its scientific elite to engage in whatever activities he wanted, to meet whoever he required, and make whatever deals he wished. These privileges provided Khan and his associates with enormous freedom to pay extensive visits abroad, meet people and make deals.

The suggestion of the evidence available so far is that Khan and his associates may have made these deals, which were mainly commercial and designed to enrich himself and his network or else designed to achieve the ascendancy of KRL over the PAEC in the competition between rival institutions for influence over the government. Khan's expensive lifestyle and extensive visits abroad, mentioned by Musharraf in his memoirs, are well known.¹⁴¹ Khan's friends claim that he was not motivated by greed

¹³⁷ Ibid., p.110.

¹³⁸ Ibid.

¹³⁹ 'Nuclear Black Markets', *IISS Dossier*, p.77.

¹⁴⁰ Chakma, *Pakistan's Nuclear Weapons*, p.110.

¹⁴¹ Musharraf, *In the Line of Fire*, p. 292: 'I can say with confidence that neither the Pakistan Army nor any of the past governments of Pakistan was ever involved or had any knowledge of A. Q.'s proliferation activities. The show was completely and entirely A. Q.'s, and he did it all for money. He simply lost sight of the national interest he had done so much to protect...' Ibid., p. 294: 'For years, A. Q.'s lavish lifestyle and tales of his wealth, properties, corrupt practices and financial magnanimity at state expense were generally all too well known in Islamabad's social and government circles. However, these were largely ignored by the governments of the day, in the larger interest of the sensitive and important work that he was engaged in. In hindsight, that neglect was apparently a serious mistake.'

because most of the money which he acquired was invested in the numerous private educational institutions established by him in Pakistan.¹⁴² (However, this does not prove that the money was acquired by licit means: establishing educational institutions and conspicuous donations to charities might be viewed as no more than seeking further to enhance his reputation.)¹⁴³ During an interview in 2009 with a high-ranking official in Pakistan, he commented that it was money alone¹⁴⁴ which shaped Khan's behaviour in engaging in nuclear exports. This official did not accept that ideology played any part in his motives. When interviewed in 2009, Hans Blix agreed with this view: the motivation was 'greed and money'.¹⁴⁵ 'Khan's lavish lifestyle, frequent visits abroad, and extensive participation in charity donations are well known facts.'¹⁴⁶

Khan's behaviour and the responsibility of the state

When interviewed in 2009 Riffat Hussain stated:

when you are running a clandestine programme you keep it hidden from the public eye. Khan was able to cultivate an image as godfather of Pakistan's nuclear programme. Everybody trusted him and no-one believed that he would actually do something as outrageous as he did or that he would abuse the trust of the people and the state. It is a classical case of organizational autonomy, being abused by an individual who is not accountable under any given frame of law. He had to bypass the existing system. Once you have established the channels it is very easy to go in the opposite direction. So the channels that he had developed for importation could easily be used for exportation.¹⁴⁷

In a similar vein, when interviewed on the subject of Khan, General Ehsan argued that

Most of the non-proliferation activities of A. Q. Khan were beyond the borders of Pakistan and the writ of the state of the Pakistan. It happened out of the way, by suppliers who were sitting in Germany, Malaysia,

¹⁴² Malik, Interview (Islamabad, Oct. 2008).

¹⁴³ Zahid Hussain, Interview (Islamabad, 2008).

¹⁴⁴ Anonymous Pakistani Official, Islamabad (June 2008).

¹⁴⁵ Hans Blix, Interview (Tucson, July 2009).

¹⁴⁶ Clary, 'The A. Q. Khan Network: Causes and Implications', p.46.

¹⁴⁷ Riffat Hussain, Interview (2009).

Switzerland and various other countries. Khan was a Pakistani; the state of Pakistan is not responsible for acts of individuals. This arose from the nature of how we developed our nuclear programme. We developed networks outside Pakistan to bring in the technology to develop our programme. So he misused those networks, again outside Pakistan.¹⁴⁸

The state of Pakistan, as has been seen, conferred an enormous degree of freedom and privilege to one of its most senior scientists in order to build a nuclear bomb rapidly. It is worth noting that if Khan's nuclear export behaviour had been backed by a consistent state policy, then the PAEC would have made some contribution to it too. As long as Khan delivered the goods in terms of progress towards nuclearization, he was not questioned by any state authority.¹⁴⁹ The scientific rivalry with the PAEC and his personal ambition were initially the main factors influencing Khan's behaviour in breach of government guidelines. It is also important to note that during the 1980s, the period of US–Pakistan collaboration against the Soviets in Afghanistan, Pakistani export controls and safeguards were severely weakened by the secrecy surrounding the support to the anti-Soviet *jihad* in Afghanistan.

When, in the mid-1980s Khan succeeded in developing the P-2 centrifuge, he was left with a huge inventory of unwanted P-1 centrifuges in his stock. At the same time, apart from the president, no one had any authority to question Khan with regard to his activities, his deals, or his arguments justifying imports or exports. After Zia's death, the nuclear programme was placed under the control of the army and civilian leaders had little influence over the nuclear programme. State institutions were weak and export control legislation was ineffective. Moreover, the IISS Dossier assessment shows the fact that 'for over two decades, Khan has had authority to do unchecked travels'.¹⁵⁰

On the domestic front, a security official contends that the role of the security agencies was only to protect the national laboratories from external threats. Their main

¹⁴⁸ Gen. Ehsan, Interview (2009).

¹⁴⁹ Mirza Aslam Beg, Interview (2008), Asif Durrani, Interview (2009), Gen. Ehsan, Interview (2009).

¹⁵⁰ 'Nuclear Black Markets', *IISS Dossier*, p.66. Also Musharraf, *In the Line of Fire*, p.287.

purpose was to provide Khan and associates with secure space in which to work instead of tightening the security around them.¹⁵¹ Khan and his associates ‘were not in anybody’s oversight ... we were not seeing what packages were going out or what was inside the package.’¹⁵² General Beg argued that the ‘army as such was involved in decision-making policy – but not directly responsible for all that was happening within the Kahuta lab’.¹⁵³ Khan ‘could do anything. He could go anywhere. He could buy anything at any price’.¹⁵⁴ General Ehsan added that in his view Khan was trying to play a role that was larger than that of the state; he was not only greedy but was trying to acquire influence in other countries.¹⁵⁵

Simon Henderson, a close friend of Khan, writing in *The Times* on 20 September 2009, mentioned a letter from Khan to his wife, copied to his daughter and Henderson, which outlined a number of details concerning Pakistan’s nuclear programme.¹⁵⁶ In the letter to his wife, who was in Amsterdam, dated 10 December 2003, Khan asserted that relations with Iran, North Korea, Libya and China were at the level of cooperation between states. When interviewed on this revelation later in 2009, General Ehsan stated:

you cannot take A. Q. Khan’s words when he is the culprit ... You have to look at the evidence, and there is no evidence to indicate anybody else. It could have happened like this: if I am heading an organisation – if I am the DG ISI, or I am the chairman of the Joint Chiefs [of staff], who is going to stop me at the gate and say ‘Look, Sir, show me your briefcase’? Again, the way our nuclear programme was developed we just recorded all things that are brought in by Khan to our nuclear programme so it was never subjected to customs checks. It was the same prerogative until 2001.¹⁵⁷

Pakistan behaved irresponsibly by giving Khan such extensive independence that he could break the state’s policy. The lax security and export control measures indicate that

¹⁵¹ Corera, *Shopping for Bombs*, p.95.

¹⁵² Ibid.

¹⁵³ Ibid., pp.95–96.

¹⁵⁴ William J. Broad, David E. Sanger and Raymond Bonner, ‘A Tale of Nuclear Proliferation’, *New York Times*, (12 February 2004).

¹⁵⁵ Gen. Ehsan, Interview (2009).

¹⁵⁶ Simon Henderson, ‘Investigation: Nuclear scandal - Dr Abdul Qadeer Khan’, *The Times* (20 September 2009). URL: <http://www.timesonline.co.uk/tol/news/world/asia/article6839044.ece>

¹⁵⁷ General Ehsan, Interview (2009).

Khan's behaviour was ultimately the responsibility of the state, which acted negligently through inertia.

The Responsibility of Institutions: How a State's Behaviour may also reflect the Weakness of Global Institutions

Khan's nuclear exportation activities further exposed the weak global non-proliferation system, which was not even strengthened after Khan's imports from European firms. Corera maintains that 'Khan did not run a black market network involving illegal smuggling so much as he did a "grey market" network – working through the holes in the existing export control regimes and using a variety of techniques to disguise the use or final destination of dual use items'.¹⁵⁸ Front companies were used for imports and items were re-exported to the countries concerned using false end user information. According to Corera, at the time 'it was estimated that the Khan network was entirely legitimate, breaking no law. With the lack of a comprehensive multilateral export regime, it is easy for proliferators to find new gaps as quickly as countries try to plug existing holes'.¹⁵⁹

Khan was receiving components and technology through the network, and later started supplying centrifuges and other parts believing that this is the ordinary business of the black market. Riffat Hussain commented:

Khan's behaviour was opportunistic. He saw an opportunity to engage in reverse proliferation, and make money and he made full use of it. In doing so he did not think that he was violating any norms as we had not signed the NPT or the CTBT. None of the existing regime norms applied to Pakistan.¹⁶⁰

¹⁵⁸ Corera, *Shopping for Bombs*, p.118.

¹⁵⁹ Ibid., p.111.

¹⁶⁰ Riffat Hussain, Interview (July 2009).

Furthermore, Dubai is a free-trade zone, which has few restrictions on import–export items. Khan’s associates were highly skilled since most of them had been involved in imports to Pakistan. They knew where to find advanced components almost anywhere in the world. Khan and his associates chose to work outside Pakistan and operated in states which had lax export control systems and which were not on either the US or world export controls hit list. A factory in Kuala Lumpur, Malaysia, manufactured centrifuge parts (Scomi Precision Engineering). The network secured other parts from Europe, the Middle East and Africa. The nature of such exports was so complicated that one state might design the components, a second would manufacture them, and a third would ship them to a fourth for assembling while a fifth state would make use of them. Ironically, as a result of globalization and advanced computer technologies, the proliferators’ tasks had become much easier. Previously, centrifuges were hand made by engineers with considerable precision and skill but computers had made this task much easier. Computer controlled lathes are relatively easily programmed and can produce good quality components cheaply. Such computer programmes are also easily transferable.

The nuclear non-proliferation regime appeared weak at exposing and stopping the operations of the Khan network, which shows the relevance of the arguments of the realist school. Investigations took place in Malaysia, South Africa, Germany, Switzerland and the UAE. When SCOPE was investigated, the scale on which the network had exploited these countries’ weak national export control systems was fully revealed, even though some of the countries were committed to the NSG. Particular weaknesses included weak international oversight by the institutions and the failure of NSG member states to ban illicit manufacturing of centrifuge components and their export. States which were not members of the NSG failed to resist lucrative offers from

the network. Again, during the exportation phase, many of these states were not aware of the destination of such dual-use technologies. According to Leonard Weiss, ‘the network involved suppliers or middlemen located in a dozen countries, including Turkey, Malaysia, the UAE, Japan, the United Kingdom, Switzerland, the United States, Germany, Canada, South Africa and Pakistan’.¹⁶¹

The argument presented in earlier chapters, drawn from regime theory and the neo-liberal school, that norms serve a regulative function and constrain states’ behaviour, is obviously challenged in the case of A. Q. Khan’s proliferation network. Nevertheless, it can be seen that this argument is relevant and demonstrably valid in the case of Germany, Japan, South Africa, and Libya as late as 2003, which cooperated with the international non-proliferation regime, renounced their nuclear weapons programmes and joined the NPT. While international institutions may serve to encourage and influence states to cooperate and have observable effects on cooperation and effectiveness, they are not invariably successful. A. Q. Khan is now out of business. Has the pace of North Korean or Iranian nuclear development slowed down? Obviously not. These two states remain a critical obstacle to a successful international non-proliferation regime and an apparent demonstration in practice of the arguments of the realist school in their ruthless pursuit of state interest, irrespective of international treaties and non-proliferation norms. Has Pakistan played its full part in disclosing what happened in the period when A. Q. Khan was effectively acting out of control? When interviewed in 2009, Olli Heinonen stated: ‘we have a certain understanding with Pakistan. Our investigation is not against Pakistan, since it is not a party to the NPT. We have asked for the cooperation of Pakistan in the investigation of other countries ...

¹⁶¹ Leonard Weiss, ‘Turning a Blind Eye Again? The Khan Network’s history and lessons for US policy’, *Arms Control Today* (March 2005): http://www.armscontrol.org/act/2005_03/Weiss

There has been no flood of information from Pakistan to the IAEA.’¹⁶² With regard to Pakistan’s behaviour, Heinonen’s argument reveals that the problems arose because of the earlier failure to build cooperation with it and because it had not joined the NPT.

Conclusion

The A. Q. Khan proliferation case was a failure for all parties concerned, except for a short period for Khan and his associates who made considerable profits from their activities. The state of Pakistan left Khan with an excessive degree of autonomy, sufficient to allow him to proceed in any direction he wished, irrespective of the state’s policies and regulations. Its lax security and export control measures allowed Khan to pursue his private proliferation business at will. On the international front, the US also turned a blind eye towards Khan’s growing danger, until it was too late, in spite of the evidence of his importation activities before the mid-1990s. Several European countries must also be held responsible for their lax security arrangements and for not regulating their companies, which supplied not only Khan from 1976 until 2004 but also Iran, Iraq and Libya. The new methods explored by the Khan network, especially running businesses from those states, such as Malaysia, which had lax export controls required greater levels of scrutiny than previously. The Libyan case, in which uranium enrichment information was released from Pakistan, but the parts were manufactured in Malaysia and shipment was made via Dubai through a global network, clearly raised new challenges for the international community which required higher levels of vigilance and action than were demonstrated in practice.

¹⁶² Olli Heinonen, Interview (2009).

The main transformation in the international environment of the 1990s was the profound challenge to the non-proliferation regime by certain NPT party states such as Iraq, Iran, North Korea and Libya. These developments shattered the export control policies implemented in the previous decades and led to a growing concern that the proliferation problems arose more from inside the NPT than outside. In the case of Iran, North Korea and Libya, the NPT as an institution failed to regulate their behaviour. These cases reveal the limited power wielded by the IAEA safeguards. The international institutions and non-proliferation regime failed to implement adequate measures to monitor North Korean nuclear developments and dissuade the country from leaving the NPT, a decision which it eventually took in 2003 but had threatened a decade earlier.

The range of channels in proliferation, such as state to state, state to non-state, non-state to non-state, non-state to state transactions discussed in chapter three and four need to be addressed by comprehensive export control laws and their rigorous enforcement. Realists rightly relate the A. Q. Khan case to the anarchic nature of the world where states choose to pursue their perceived security needs via self-help arrangements and break with previously agreed rules and cooperation with international institutions in order to do so. Cases of proliferation reveal that there is no place for different laws for different states: there is a need to introduce a new taboo norm against proliferation which is both effective and applicable to all.

Chapter Five

Pakistan's Behaviour after the Khan Revelations (2004 – 2009)¹

Part I

Introduction

After the Khan revelations, Pakistan openly admitted that its nuclear programme had not been competently managed, nor had it been presented transparently to world opinion, so that a proliferation threat had indeed existed from its territory.² In addition to this, Khan had benefited personally by exploiting loopholes in the global non-proliferation system. As a result, the US sought to address the existing loopholes within the non-proliferation regime and established close ties with Pakistan to prevent a reoccurrence of such proliferation breaches. Assistant Secretary of State, Richard A. Boucher, stated in his address to the House of Representatives Sub-Committee on Asia and the Pacific in May 2006:

In the area of non-proliferation, our countries share the concern about the threat to global stability posed by the proliferation of weapons of mass destruction and the threat of terrorist groups acquiring such weapons. We encourage Pakistan to play a constructive role in international efforts to prevent proliferation. We also encourage Pakistan to bring its export controls fully in line with international standards and practices, and to enhance enforcement capabilities. We stand prepared to assist its efforts in this regard. We will continue to engage with Pakistan on a range of non-proliferation issues.³

¹ This chapter contains information from unpublished official documents (the author visited in person the disarmament cell of the Ministry of Foreign Affairs and explored data from the files of the Ministry). Some further data has been obtained after interviewing top officials and bureaucrats in Pakistan, and exploring documentary records from other ministries of the government of Pakistan.

² Kenneth N. Luongo and Naeem Salik, 'Building Confidence in Pakistan's Nuclear Security', *Arms Control Today* (Dec. 2007), p.11.

³ Richard A. Boucher, Assistant Secretary for South and Central Asian Affairs, Statement before the House International Relations Committee Subcommittee on Asia and the Pacific, Washington D.C. (17 May 2006). Available at <http://merln.ndu.edu/archivepdf/SA/State/66374.pdf>

At the same time, Pakistan initiated a number of steps – strengthening export control laws, improving personnel security, and engaging in an international nuclear security cooperation programme, discussed below in detail, which enhanced the security of nuclear arsenals within the state itself. This chapter first addresses the global efforts (multilateral, plurilateral⁴ and unilateral) to strengthen the non-proliferation of nuclear weapons by building cooperation after the Khan revelations. The extent of this cooperation and the degree to which the security of Pakistan’s nuclear arsenal has been enhanced are the concerns debated below. This debate draws on regime theory and the neo-liberal school highlighting these questions:

- *what role did the world community play in reshaping Pakistan’s nuclear behaviour?*
- *How has Pakistan’s behaviour changed after the shutting down of Khan’s network?*
- *To what degree is Pakistan abiding by its obligations and non-proliferation measures generally?*
- *What is the guarantee that such acts will not occur again within the territory of Pakistan?*
- *How reliable an actor is Pakistan in the ranks of the global community today?*
- *How may Pakistan’s export controls be aligned with international export control regimes and how may Pakistan’s behaviour today and the future best be influenced and incorporated within global non-proliferation arrangements?*

⁴ Alliance of likeminded states in counter nuclear proliferation. For details, see Nobuyasu Abe, ‘Existing and Emerging Legal Approaches to Nuclear Counter-Proliferation in The Twenty-First Century’.

Global Initiatives towards non-proliferation (cooperation-based approach)

After the revelation of Khan's case, the concern was that the existence of a black market in nuclear-related material and technologies could assist both state and non-state actors. The role of individuals, especially scientists with the potential for passing on material and know-how to non-state actors or terrorists was another matter of great concern. Added concerns were the lax export controls at state level and the weak regulatory system on trade which might allow the transfer of dual-use technologies and the diffusion of advanced technologies. The Khan proliferation case directed international attention to the effectiveness of the export control system. IAEA Director-General ElBaradei declared on 21 June 2004 that:

the emergence of a multinational illicit network demonstrated the inadequacy of the present export control system, that international cooperation on export controls lay in informal arrangements that were not only not binding but also limited in membership, and that export control information was not systematically shared with the IAEA.⁵

Dr. Fritz W. Schmidt, the former chairman of the Zangger Committee, contended that 'criminal activities, by definition, try to circumvent existing rules and regulations and they exploit the absence of such rules at state level'.⁶ He further maintained that it was the 'role of the export control system ... to establish standards and procedures for export controls at state level rather than the task of international intelligence services or international cooperation'.⁷ Thus, after the revelation of the case, the world community, and the US in particular, played a major role in strengthening export control regimes

⁵Statement by Dr. Mohamed ElBaradei, 'Nuclear Non-proliferation: Global Security in a Rapidly Changing World', *Carnegie International Non-proliferation*, (21 June 2004). Fritz W. Schmidt, 'Nuclear Export Controls – Closing the Gaps', *IAEA Bulletin* 46/2 (March 2005), p.31.

⁶Fritz W. Schmidt, *Ibid.*

⁷*Ibid.*

and seeking to control Pakistan's future behaviour, illustrating the arguments of regime theory and neo-liberalism.

International Measures

President Bush delivered a speech at the National Defence University (NDU) in February 2004, in which he proposed a set of measures to reinforce both domestic and international controls to secure non-proliferation and detect the illicit trade of nuclear-related items.⁸ Following Bush's speech – which was in itself a reaction to Pakistan's failure to halt Khan's proliferation activities – a number of initiatives were approved: UNSC resolution 1540,⁹ the reorganization and expansion of the PSI,¹⁰ the G-8 Global Partnership's Action Plan on non-proliferation; and measures to strengthen the IAEA's investigative powers.

UNSC Resolution 1540 (2004)

In April 2004, the UNSC passed Resolution 1540 requiring all states to 'criminalize' proliferation to non-state actors, review and strengthen effective export control systems, and cover existing loopholes in the non-proliferation regime.¹¹ It required all states to adopt laws against the transfer of nuclear, biological and chemical weapons, related technology and their delivery systems and to review their domestic laws and regulations in order to comply with this Resolution. The resolution details that 'all states, in accordance with their national procedures' are required to 'adopt and enforce

⁸ Robert Einhorn, 'President Bush's Non-proliferation Proposals and Implications for the United Nations', *UNA-USA Policy Brief*, No 1, 15 March 2004.
<http://www.unausa.org/Document.Doc?id=246>

⁹ United Nations Security Council Resolution 1540, Adopted by the Security Council at its 4956th meeting, on 28 April 2004. Distr.: General, 28 April 2004, S/RES/1540 (2004).

¹⁰ President Bush finalised the Proliferation Security Initiative (PSI) in Krakow, Poland, on 31 May 2003. This new channel was designed to discourage WMD proliferation outside treaties and multilateral export control regimes.

¹¹ United Nations Security Council Resolution 1540, Adopted by the Security Council at its 4956th meeting, on 28 April 2004. Distr.: General, 28 April 2004, S/RES/1540 (2004).

appropriate effective laws which prohibit any non-state actor to manufacture, acquire, possess, develop, transport, transfer or use nuclear, chemical or biological weapons and their means of delivery, in particular for terrorist purposes, as well as attempts to engage in any of the forgoing activities, participate in them as an accomplice, assist or finance them'.¹² The resolution further requires states to establish appropriate laws and regulations to control the export, transit, trans-shipment and re-export and control on funds and services related to such export transshipment such as financing, as well as establishing end-user controls; and establishing and enforcing appropriate criminal or civil penalties for violation of export control laws and regulations. It establishes a Committee of the Security Council to monitor the implementation of laws and obligation by states under the resolution. Indeed, this whole resolution represents an approach based on international cooperation backed by new legislation at the level of the state, which shows the relevance of regime theory. This resolution proved very effective in the case of Pakistan, which was able to engage with the initiative as a non-NPT state, as is demonstrated below.

At the same time, Resolution 1540 has key drawbacks. Firstly, it deals only with nuclear non-proliferation by non-state actors. Secondly, it relies on the compliance of the member states, which are supposed to report on its implementation and establish a committee of experts. The role given to the committee of Security Council to interpret the Resolution is limited to tasks such as requesting reports from member states.¹³ Resolution 1540 does not define what constitutes appropriate physical protection measures: member states themselves are left to decide on this, which is the main shortcoming in the implementation of the Resolution. Furthermore, the power granted to

¹² Ibid.

¹³ Resolution 1540 addresses three main tasks: national reports received from member states; implementation of the resolution; and to assist member states on their request to prepare a report through services offered by the IAEA.

the Security Council under the Charter remains limited and can be influenced by influential states: this demonstrates the realist argument that power relations influence institutions and that states use institutions for their own purposes, in order to secure relative gains against their rivals. Resolution 1540 was not an initiative taken by the UN acting independently but under the influence of the US – a powerful state which encouraged likeminded states to follow suit, as is emphasised by realist arguments. When interviewed in 2009, Olli Heinonen stated that ‘the Resolution requires [a] more formal and wider [enforcement] mechanism’.¹⁴ Indeed, there is a need to strengthen this law-based cooperative approach (as is suggested in the following chapter).

IAEA - Additional Protocol (AP-Reinforced 2004)

In his February 2004 address, President Bush stated: ‘I propose that by next year, only states that have signed the Additional Protocol be allowed to import equipment for their civil nuclear programmes. Nations that are serious about fighting proliferation will approve the Additional Protocol.’¹⁵ This protocol was reinforced in the G-8 Action Plan on non-proliferation and a working paper was circulated in the NPT review conference that ‘implementation of the Additional Protocol should become a key standard by which to measure NPT [states’] commitment’.¹⁶ The implementation of the AP helps dissuade potential proliferators from using safeguarded nuclear material for other than peaceful purposes, or engaging in clandestine nuclear activities. However, the pre-2004 safeguards system was designed almost exclusively for detecting the diversion of nuclear material at declared facilities. To address this and other deficiencies, the US and other IAEA member states conducted a review of the nuclear safeguards system. Subsequently, the IAEA Board of Governors decided to make broader use of the

¹⁴ Olli Heinonen, Interview (Tucson, July 2009).

¹⁵ Theodore Hirsch, ‘The IAEA Additional Protocol’, p.1.

¹⁶ Ibid.

Agency's existing authority and to provide the additional tools needed by IAEA inspectors to uncover undeclared nuclear activities.

To fill gaps in the IAEA's authority, the US–IAEA Additional Protocol was devised. The aim of the AP was to expand the inspection activity of IAEA inspectors, empowering them to require fuller disclosure of imports and exports of dual-use technology. Subject still to full disclosure by the states concerned, the IAEA might therefore become a more powerful body to deal with the Iranian case of compliance or non-compliance with the NPT. Further, IAEA Director ElBaradei stressed the need to strengthen international arrangements to control imports and exports. He stated that 'export controls must be brought under [an] international framework'.¹⁷ The Bush Administration also envisaged a radical reform of the NPT, closing off enrichment and reprocessing to those states that did not already possess such capabilities and prohibiting the importation of civilian nuclear equipment by states which refused to sign the AP. Although this approach activates an international legal framework and the IAEA is held responsible to deal with states' export controls, there are still gaps in addressing export controls which states are not meeting under the AP.

In addition to the above, the US and the world community also realised there were loopholes in the NSG. Measures decided by the NSG in May 2004 required all member states to adopt a 'catch all' mechanism, which sought to overcome the strategies used by the nuclear proliferation network to import dual use technology. These measures, which had already been adopted by the US, gave the NSG members the legal authority to refuse the export of any item even if it was not named in the export control list. States were required to adopt additional measures for the specification of the requested items (that is, those on the export control list) and also

¹⁷ Erich Follath, Juergen Kremb, and George Mascolo, 'Nuclear War IS Getting Closer', *Der Spiegel* (26 January 2004). Also Albright and Hinderson, 'Unravelling the Khan network', p.126.

explore the track record of importing states with regard to the proliferation of nuclear technology. It required states to implement the IAEA AP as a condition for supplying nuclear material for civil use. It expanded the NSG's membership and required the additional member states to strengthen their export controls through cooperation with more experienced states. These measures directly affect the activities of individuals and groups who had been proliferating in the past such as Khan's network. There is an urgent need for the group to broaden and deepen its consensus. If the less powerful states gain the impression that 'it meets the powerful states' interests only',¹⁸ then the viability of the NSG will be undermined and the realist arguments demonstrated. Pakistan, for example, is not a party to these measures, which tend to be perceived in that country as operating in the interests of the states in the West.¹⁹

The Proliferation Security Initiative (PSI – launched in 2003 and reinforced 2004)

The PSI was an initiative taken by the US and like-minded countries to interdict the illegal trade of WMD technology, delivery systems and related material across the globe. Through the PSI, the US has called for coordination among countries to strengthen efforts to deal with those who are involved in deadly trafficking and bring them to justice, close down the laboratories, seize their material and freeze their assets.²⁰ In 2002, the US developed a national strategy to combat WMD proliferation, enhancing already existing measures on non-proliferation, arms control, export controls and the management of WMDs. The PSI was designed to build cooperation with states outside international regimes, treaties and export control arrangements.

In 2004, President Bush expanded the PSI to do more than deal with shipments and transfers. It was empowered to 'shut ... down facilities, seiz[e] ... materials, and

¹⁸ Asif Durrani, Interview (July 2009).

¹⁹ Ibid.

²⁰ Albright and Hinderson, 'Unravelling the Khan network', p.124.

freez[e] ... assets'.²¹ However, it is hard to shut down facilities and seize materials or freeze assets when dual use technology is involved. However, Resolution 1540 strengthens the PSI objectives. The informal PSI mechanism raises a serious question as to the best means to secure the compliance of states. The PSI succeeded in interdicting a sea-borne shipment of centrifuge parts to Libya in the autumn of 2003.²² However the failure to discover additional shipments from Turkey indicates just how difficult it is to track all movements of WMD-related items in a globalized economy. This is indeed a totally new counter-proliferation measure. It employs different tools, such as interdicting WMD-related items in the transport phase – after they have left a dock, airport or warehouse or border to reach their destination. There is another issue with the PSI: while the NPT allows the right to free trade, the PSI stops it when there is a proliferation risk. Who – other than the US – determines that there is a risk? The fact is that the PSI has no legal legitimacy but operates at the behest of the greater powers. Indeed, if this initiative is to become lawful and universal within the international non-proliferation regime then it has to become a new part of customary international law. When interviewed in 2009, Olli Heinonen argued that there was a need to formalize this initiative, probably through the UNSC.²³

In theory, the PSI deals with the WMD trade by sea, air and land but it can act effectively only in certain areas. With limited political support, it is very difficult to counter shipments via air or land when the airspace or land route used is controlled by states which do not support the PSI. For example, it is easy to make agreements with states that their land and airspace will not be abused by proliferators but in practice such

²¹ Quoted in Sharon Quassi, 'Proliferation Security Initiative (PSI)', *CRS Report for Congress*, Order Code RS21881, Updated 14 September 2006, p.5.

²² Four PSI states (Britain, Germany, the US and Italy) cooperated to stop a shipment of uranium components to Libya. British and US intelligence found that thousands of centrifuge parts were shipped to Libya in Oct. 2003. Five containers were shipped from the Gulf port of Dubai via the Suez Canal to Libya. However the cargo was seized when the German owner ordered the ship's captain to divert to the Italian port of Trento where the vessel was searched.

²³ Olli Heinonen, Interview (2009).

agreements are difficult to enforce. The US put forward a proposal to station one of its personnel at its Islamabad embassy to coordinate and have access on nuclear matters with Pakistan's NCA, but so far the government of Pakistan has been reluctant to accord this. The perception in Pakistan is based on the realist assumption that initiatives such as the PSI are supported by the funding of a major power and the decisions will always tilt towards those states which provide the investment.²⁴ Olli Heinonen concurred: 'yes, this is more a budgetary question.'²⁵

Cooperative Threat Reduction Measures (CTR initiated 1991- reinforced 2004)

Following the collapse of the Soviet Union, the CTR was introduced in the US in 1991 by Senators Sam Nunn and Richard Lugar, aimed at four key areas: the destruction of weapons of mass destruction (nuclear, chemical and others); safeguarding the destruction, transportation or storage of the weapons; safeguarding the proliferation of these weapons and related material; and preventing the proliferation of knowledge or scientific expertise that can contribute to the development of nuclear weapons. The CTR was designed to deal with the proliferation threat emanating from the Former Soviet Union (FSU) through international assistance. In 2003, the CTR was expanded in its provision authorizing the funding of projects outside the FSU. Senator Lugar presented a bill allowing the Department of Defence (DoD) to use \$50 million in countries outside the FSU for emergency proliferation risks. This FY 2003 Bill specifically addressed South Asian non-proliferation issues. The US would attempt to influence the behaviour of India and Pakistan in order to 'establish a modern, effective system to protect and secure nuclear devices and material from unauthorized use, accidental employment, or

²⁴ Kamran Akhter, Director Disarmament Cell, Ministry of Foreign Affairs, Islamabad, Interview (Oct. 2008). Asif Durrani, Interview (July 2009, May 2010).

²⁵ Olli Heinonen, Interview (2009).

theft'.²⁶ India and Pakistan were also to be encouraged towards the non-deployment of nuclear weapons or ballistic missiles that could carry nuclear weapons; South Asian export controls were to meet international non-proliferation obligations; export control measures were to cover dual-use technology including technical information and material used in the design, production and development of nuclear weapons and missiles; and bilateral measures regarding nuclear policies were to be considered by Indian and Pakistani officials. However, the House prohibited these funds and the provision of the bill was dropped. In the 108th Congress, the Nunn–Lugar Expansion Act of FY 2004 permitted the DoD to allocate \$50 million on CTR outside the former Soviet Union. However, \$20 million of CTR has already been used to dismantle items related to chemical weapons in Albania and countries such as India, Pakistan, China, North Korea, Iraq and Libya were included in the list (some of which were outside the NPT). In the 109th Congress, a bill of \$10 million was authorized for non-proliferation, anti-terrorism and a related programme for the state of Pakistan. How this affected Pakistan's behaviour is detailed below.

The G8 Global Partnership - 2004

In July 2004, the G-8 Global Partnership introduced an Action Plan on non-proliferation which declared that the exportation of 'sensitive items with proliferation potential' should be considered inconsistent with non-proliferation norms. Exports should be limited to states committed to non-proliferation norms. The G-8 states reaffirmed their commitment to the NPT and to prevent the illicit diversion of nuclear material and technology. In their action plan, the G-8 agreed to take new measures to ensure that sensitive nuclear items would not be exported to states which might divert their use for

²⁶ Sharon Squassoni, 'Nuclear threat Reduction Measures', *CRS Report for Congress*, Order Code RL31589, p.3.

weapons purposes or to states in which they might fall into terrorists' hands. The G-8 states committed themselves to amend the NSG guidelines; seek universal adherence to the IAEA safeguards and the AP; and urge all states towards ratification and implementation of these agreements; strengthen the role of the IAEA and enhance its ability to ensure that states comply with their NPT obligations and IAEA safeguards agreements and further strengthen these safeguards and verification procedures. This is a voluntary effort of states to build international cooperation in order to strengthen the non-proliferation framework. It would be preferable for these efforts to be formalized under international law and report directly to the UNSC. This will then have an effect on NPT states in accordance with resolution 1540.

To sum up, the informal status of some of measures such as the PSI, CTR and the G-8's GP poses a big question mark over the permanency and legal basis of these arrangements. It should be noted that initiatives under the Bush Administration tended to be placed outside the remit of the UN because it was hostile to this organization, both in principle and practice. John R. Bolton, Bush's nominee as US Ambassador to the UN in 2005 (though never confirmed by the Senate), stated in an interview that when the US and its P5 counterparts find their national interests in opposition, Washington 'may need to find another organization to accomplish our objectives'. He contended that the UN was 'one of many competitors in a marketplace of global problem solving'.²⁷ Already in 1997, Bolton had written of 'America's scepticism about the United Nations', arguing that it could play an 'important but limited role ... in international affairs in the foreseeable future' but only as 'one of several options for implementing American foreign policy...'²⁸ Bolton's views had a direct impact on the formulation of

²⁷ Betsy Pisik, 'Can the US find a substitute for the UN?', *Washington Post* (15 Nov. 2005).
<http://www.washingtontimes.com/news/2005/nov/15/20051115-123449-9640r/?page=2>

²⁸ John R. Bolton, 'America's Scepticism about the United Nations', *US Foreign Policy Agenda. USIA Electronic Journals* 2/2 (May 1997), 25-27.

policy within the Bush administration, since from 2001 to 2005 he was Under Secretary of State for arms control and international security. In an article published in the *Financial Times* on 7 September 2004, Bolton described the Bush administration's 'all-out war on proliferation':

Rather than rely on cumbersome treaty-based bureaucracies, this administration has launched initiatives that involve cooperative action with other sovereign states to deny rogue nations and terrorists access to the materials and know-how needed to develop weapons of mass destruction (WMD). Our policies show that robust use of the sovereign authorities we and our allies possess can produce real results.

The Bush administration is reinventing the non-proliferation regime it inherited, crafting policies to fill gaping holes, reinforcing earlier patchwork fixes, assembling allies, creating precedents and changing perceived realities and stilted legal thinking. The front lines in our non-proliferation strategy must extend beyond the well-known rogue states to the trade routes and entities engaged in supplying proliferant [*sic*] countries. This can properly be described not as 'non-proliferation', but as 'counter-proliferation'. To accomplish this, we are making more robust use of existing authorities, including sanctions, interdiction and credible export controls. Most importantly, we have taken significant steps to improve coordination between sovereign states to act against proliferators.²⁹

John R. Bolton's candid view of the UN as just one of several options for implementing US foreign policy and obvious preference for 'other competitors in the marketplace of global problem solving' underlines the realist view of international agreements as 'rules ... typically formulated in international agreements which are embodied in organisations functioning by their own personnel and budget'.³⁰ Such arrangements are without any effective mechanism of command other than leadership of the US.

²⁹ John R. Bolton, 'An All-Out War on Proliferation', *Financial Times* (7 Sept. 2004). <http://www.acronym.org.uk/docs/0409/doc01.htm#01> from <http://usinfo.state.gov>.

³⁰ See the earlier discussion in Chapter 1.

Part II

Pakistan establishes a new nuclear taboo

Because of the obloquy it suffered in 2003–4 at the time of the revelation of Khan’s proliferation activities, Pakistan has accepted in effect that there is now a second nuclear taboo – against nuclear proliferation – and has implemented measures to achieve this. Pakistan as a responsible state stepped forward and fully cooperated with the global community and addressed this threat both at home and abroad. There were three main areas for improvement:

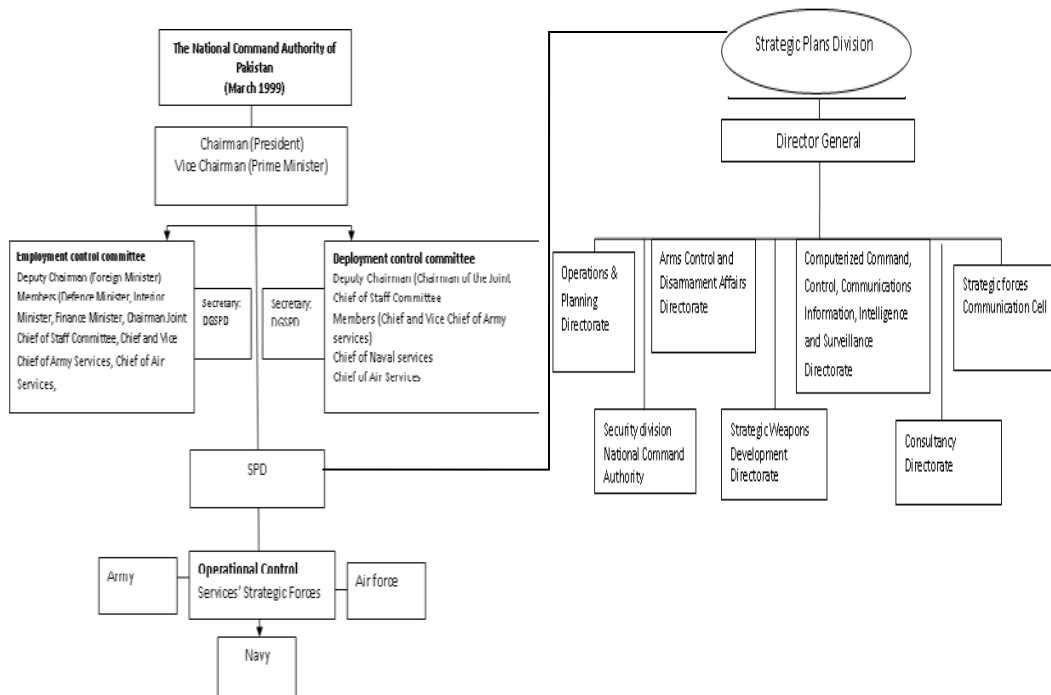
- the integrity of the command and control structure
- preventing proliferation insiders
- ensuring the physical security of nuclear weapons.

Pakistan’s nuclear weapons structure – the measures in place

Integrity of the Command and Control system

It is important to note that well before the Khan revelations, Pakistan had already established a new central command and control system and formed the NCA. Subsequently, Pakistan went further and established the Strategic Plans Division (SPD) serving as a permanent secretariat to the NCA. The SPD was initiated as an informal body in 1999 but it achieved formal status in February 2000. Pakistan also adopted a nuclear doctrine and communication system by integrating it with its intelligence and reconnaissance system under the NCA. It then sought to reinforce the existing structure and implement new measures to strengthen its export control system.

Figure 1: Structure of Control of Pakistan's Nuclear Weapons



Source: Data was collected by visiting the Ministry of Foreign Affairs and SPD. Kenneth N. Luongo and Naeem Salik, 'Building Confidence in Pakistan's Nuclear Security'. Peter Lavoy, 'Pakistan's Nuclear Posture and Survivability'.

The above diagram reveals Pakistan's responsible nuclear behaviour in formally institutionalizing the command and control system and, for the first time, placing the nuclear programme under military control with civilian oversight. The NCA encompassed all the relevant departments together under a Central Command and Control system, undertaking the responsibility for the employment and deployment of the nuclear forces; assembling and building up communication and coordination among all the strategic groups; establishing arms control and disarmament units; and creating stringent measures for export controls and the safety and security of nuclear facilities and material.

The NCA structure, as shown above rests, on two significant pillars: the *employment control committee*, which is the policy-making section in which its

chairman and vice-chairman reside;³¹ and the *deployment control committee* which translates policy decisions initiated by the employment control committee into force goals and strategic organization.

Second, the Strategic Plans Division carries out all the regular tasks concerning Pakistan's 'strategic assets', resting as a bridge, providing a communications gateway to the other strategic organizations and groups, and dealing with the budgetary and administrative concerns of these organizations. It is also responsible for about 9,000–10,000 professional personnel responsible for the security of the strategic infrastructure.³² Further breaking down the role of SPD, it has four pillars, which are its directorates, significant sub-divisions dealing with a range of tasks. The Operation and Planning Directorate stands responsible for operational planning. The Computerised Command Control, Communications, Information Intelligence and Surveillance (CCCCIISR) Directorate develops and handles strategic command and communications links. The Strategic Weapons Development Directorate provide a communications bridge to all the strategic organizations, oversight of their budgetary demands and audits funding. The Arms Control and Disarmament Affairs Directorate provides policy recommendations related to arms control and disarmament policies and is responsible for dealing with international, bilateral and multilateral non-proliferation policies. The SPD also comprises certain sub-directorates such as the Consultancy sub-directorate, which deals with technical advice on all construction projects, and the Strategic Force Communication Planning (SFCD) cell, which provides technical assistance for the CCCCCIISR directorate. The Security Division is responsible for internal and external

³¹ The Nuclear Command Authority remains in charge of the overall command and control framework of Pakistan's nuclear weapons in 2010. Recently, President Asif Ali Zardari has transferred his position as head of the country's nuclear command authority to the Prime Minister, Yousaf Raza Gilani. This may be an attempt to reduce growing political pressure on the president in the face of possible corruption charges on him.

³² Luongo and Salik, 'Building Confidence in Pakistan's Nuclear Security', p.13.

security for all sensitive installations and has the largest number of employees. Reporting for the whole structure goes to the Director of SPD, Lt. Gen. (Retd.) Khaled Ahmed Kidwai who heads the SPD, and guards and secures the nuclear arsenal, under the supervision of the Army Chief, Gen. Ashfaq Parvez Kayani, with the assistance of the Pakistan Army.³³

Third, an important tool of command comprises the three services' strategic forces commands, which exercise technical, training and administrative control of the delivery systems, with operational control aligned with the NCA. The most important responsibility for ballistic and cruise missiles stays under the command of the Army strategic force; aircraft capable of delivering nuclear weapons rest with air force; and the naval force command was underway during the author's visit to Pakistani ministries during mid-2008.

Measures against Proliferation Insiders

After the revelation of Khan's case, 'proliferation insiders' became a subject of utmost concern. Pakistan recognized that the protection of its nuclear programme was a pivotal part of its objectives as a responsible state in the world hierarchy of states. The most important step was that Pakistan launched an inquiry against A. Q. Khan. Khan was placed under house arrest and several scientists and security officials were detained and questioned. On 17 March 2004, the government of Pakistan announced in front of the National Assembly that 'Pakistan had come out "clear" from the nuclear proliferation scandal and that there was no question of rolling back its nuclear programme'.³⁴ Western intelligence requested Pakistan give access to Khan for questioning but this was denied. During conversations with the Western officials such

³³ 'Strategic Planning Directorate (SPD) - Combat Development Directorate (CDD)'. URL:- <http://www.globalsecurity.org/wmd/world/pakistan/spd.htm>

³⁴ Amir Wasim, 'Pakistan came out of N-crisis safely: No question of rollback', *Dawn* (17 March 2004).

as Hans Blix, Olli Heinonen, Stephen P. Cohen, reservations were expressed about the extent of Pakistan's disclosures: 'we had wanted access to Khan for further investigations but Pakistan denied this. We remain very much concerned and continue to have reservations about this.'³⁵

Drawing upon interviews with Pakistani officials,³⁶ this study reaches a number of conclusions: first, since Khan had played an important role in building Pakistan's nuclear bomb he was regarded by the public as a hero. The strong public support for Khan meant that the government had to proceed cautiously. Second, the Pakistan government requested all the interested governments to supply details of their concerns so that its officials could investigate and provide the necessary answers.³⁷ Pakistan has fully cooperated with the US, the IAEA and concerned governments and it is continuing to cooperate.

Export control Measures - Testing Pakistan's behaviour in compliance with global legislation

Pakistan introduced export control regulations called Statutory Regulatory Orders (SRO) in July 1998, further regulations in February and August 1999 and an Export Policy and Procedure Order in November 2000. These regulations banned exports related to fissile material and required a "no objection certificate" to be issued by PAEC for the export of nuclear substances, radioactive material, and nuclear energy-related equipment'.³⁸ Although an improvement on previous regulations, these new measures proved to be lax in that Khan was able to export centrifuge technology.

³⁵ Hans Blix, Olli Heinonen, Stephen P. Cohen, Games Acton, Interviews (July 2009)

³⁶ Gen. Eshan, Interview (2009), Asif Durrani, (2009), Kamran Akhtar, Interview (2007 and 2008).

³⁷ Asif Durrani, Interviews (July 2009 and May 2010).

³⁸ Ahi-chin Lin, 'The A. Q. Khan Revelations and Subsequent Changes to Pakistani Export Controls', *A publication of the Centre for Nonproliferation Studies* (7 May 2005).

Khan's involvement in nuclear proliferation brought Pakistan to reinforce these regulations and the Ministry of Foreign Affairs reframed them in accordance with international practices. Resolution 1540 empowers states including Pakistan to implement domestic legislation to strengthen controls over sensitive materials and technologies to prevent terrorists from acquiring weapons of mass destruction.³⁹ Under its revised legislation of 2004, Pakistan is committed to prevent the proliferation of nuclear and biological weapons and missiles capable of delivering such weapons. To achieve this, it has strengthened its controls on the export, re-export, transshipment and transit of goods and technologies, as well as the material and equipment related to nuclear and biological weapons. The Ministry of Foreign Affairs compiled new export control regulations in accordance within the framework set by the IAEA and the US.⁴⁰ On 7 June 2004, the government presented a bill in the National Assembly known as the *Export Control on Goods, Technologies, Material and Equipment related to Nuclear and Biological Weapons and their Delivery Systems Act, 2004*.⁴¹ Subsequently, the bill was passed by the Pakistan National Assembly in September that year. Under this legislation, the penalty for violation of these controls is imprisonment for 14 years, the confiscation of all property and assets and an additional fine of 5 million rupees (about \$86,500).⁴² Both the effectiveness of this legislation and the deterrent effect of this penalty to members of the elite equivalent to Khan's stature remain to be seen.⁴³

³⁹ Pakistan Act 2004: see IAEA documents site. Gabrielle Kohlmeier and Miles A. Pomper, 'Pakistan Advances Export Controls', *Arms Control Today*, http://www.armscontrol.org/act/2004_10/Pak.asp

⁴⁰ Kamran Akhtar, Director Disarmament Cell, Ministry of Foreign Affairs, Pakistan, face to face discussion (Oct. 2008).

⁴¹ 'Pakistan's national legislation entitled: "Export Control on Goods, Technologies, Material and Equipment related to Nuclear and Biological Weapons and their Delivery Systems Act, 2004"'. A letter received by the Director General, IAEA, from the Permanent Mission of Pakistan, Published document, INFCIRC/636 (23 November 2004). <http://www.iaea.org/Publications/Documents/Infcircs/2004/infcirc636.pdf>

⁴² 'Asian Export Control Observer', Issue No. 3, *Centre of Non-proliferation Studies, CNS Publication*, (August/September 2004): http://cns.miis.edu/pubs/observer/asian/pdfs/aeco_0408.pdf

⁴³ Pakistan has submitted reports to the 1540 Committee, which have been recognised and appreciated.

National approach to address the threat: *First*, the 2004 Act applies to every citizen of Pakistan, who may be visiting or working outside Pakistan, every foreigner residing in Pakistan and any ground transport, ship or aircraft registered in Pakistan (wherever it may be located in the world). Pakistan defined all related items within these laws in terms of basic scientific research, biological weapons delivery systems, development, equipment, and means of export. Furthermore, it also defines the responsibilities of persons engaged in export activities and holding an export licence.

Second, Pakistan's control lists, which were notified in 2005, are based on the European Union (EU) model, and incorporate items controlled by the NSG, MTCR and Australia AG relating to biological weapons.⁴⁴ They also ensure that Pakistan's obligations under national law are consistent with international standards.

Third, the 2004 Act provides for the establishment of a government authority to administer export controls covered by the Act. There is also a specific delegation of authority to relevant Ministries, Departments and agencies for the performance of certain functions related to the implementation and enforcement of the Act. *In order to improve the effectiveness of export controls*, the Prime Minister of Pakistan approved the establishment of an independent export control authority, the Strategic Export Control Division (SECDIV) in the Ministry of Foreign Affairs in April 2007.⁴⁵ An Oversight Board has also been established to review the implementation of the Export Control Act 2004 and the functioning of the SECDIV. This designs licence requirements and procedures which respond to international guidelines, end user requirements, and 'catch all' controls. It also conducts industrial outreach programmes and automated licensing is envisaged. Pakistan is receiving trained staff from the US and elsewhere to implement and enforce this act. The training areas include licensing,

⁴⁴ Information from the Ministry of Foreign Affairs, Pakistan. Also see 'Asian Export Control Observer', Issue No.3 CNS report, p.3.

⁴⁵ Ibid.

commodity identification (for customs officials at borders and other exit points which will ensure proper identification of controlled items), and border controls, coastal controls, as well as the development of export control regulations. The SECDIV is intended to be a 'one-stop shop', which prevents exports from having to deal with various agencies and thus streamlines procedures. This is a unique concept whereby inter-agency consideration of export licenses is simplified. At present, inter-agency consultations take place but they take time as a particular application goes to various agencies and then the different views have to be reconciled. Keeping these consultations 'under one umbrella' should facilitate them and speed up the process.⁴⁶ According to Tasneem Aslam, SECDIV is a 'continuing manifestation of Pakistan's strong commitment to non-proliferation and its determination to fulfil its national and international export control commitment'.⁴⁷ These developments make the case of Pakistan closer to those states which are covered by the Zangger Committee or the NSG.

Fourth, it was learnt after having discussions with Pakistani officials⁴⁸ that the Ministry of Foreign Affairs, Islamabad, undertakes a case-by-case determination of export licences. The ministry ensures that the export in question is consistent with Pakistan's obligations under international treaties, UNSCR 1540, its non-proliferation commitments and the UN arms embargoes and that it will not make a military contribution to a state that poses a threat to international security, regional stability or threatens to worsen a situation of conflict. In such cases, the Ministry of Defence Production will be informed and the export permit withheld.⁴⁹ Thus, the Pakistan diplomatic mission in the importing country is asked to verify the authenticity of the

⁴⁶ Pakistani body to promote nuclear non-proliferation objective', 30 April 2007.

<http://www.globalsecurity.org/wmd/library/news/pakistan/2007/pakistan-070430-irna01.htm>

⁴⁷ Ibid.

⁴⁸ Asif Durrani, Interview (July 2009-May 2010).

⁴⁹ Personal visit to Ministry of Defence, Pakistan (2008).

end-user certificate to ensure that the items are intended for use by the government and that no objection has been received. Then the final export permit is issued by the Ministry of Defence Production.⁵⁰

There is no reported case of nuclear proliferation from Pakistan since the reforms of 2004. A number of export requests have been denied.⁵¹ However, Islamabad does not share information on such refusals. A Pakistani official maintained ‘we are willing to share such data provided denials shared among MTCR and NSG members are also shared with us’.⁵² Ironically, while the MTCR and NSG wish for a universalization of their standards they are not open for new members. Such a restrictive approach by the Western countries undermines the objective of non-proliferation. As one Pakistani official observed, ‘they want to have a monopoly over decision-making and reserve the right to make changes in international regimes while expecting other countries such as Pakistan to undertake obligations with no right to make suggestions for the better implementation of export controls’.⁵³

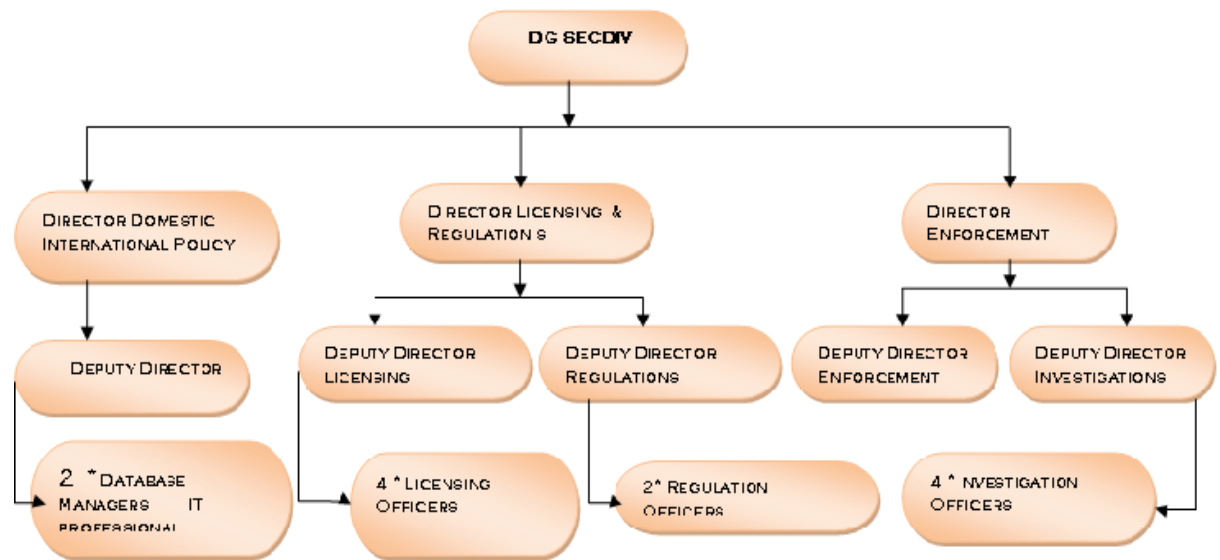
⁵⁰ Ibid.

⁵¹ Kamran Akhtar, Interview (2008).

⁵² Face to face interview with Pakistani officials.

⁵³ Kamran Akhtar, Interview (Islamabad, 2008). Asif Durrani, Interview (London, 2009).

How SECDIV Perform its Tasks:⁵⁴



Addressing the proliferation threat in cooperation with the World Community: First, Pakistan is a party to the Convention on the Physical Protection of Nuclear Material (3 March 1980). The government of Pakistan has agreed to follow the guidelines contained in the IAEA code of conduct on the safety and security of radioactive sources. It is participating in the IAEA Illicit Trafficking Database (ITBD) under the Nuclear Security Action Plan of the Pakistan Nuclear Regulatory Authority (PNRA). Under the PNRA Ordinance, a body of regulations has been put in place requiring strict compliance by the licensees with requirements for the physical protection, safety and security of nuclear facilities, material and radioactive sources during use storage and transport. Pakistan's nuclear safety and radiation protection regulations (PNSRP) 1990 – as updated by PNRA in 2004⁵⁵ – require all licensees to organize and ensure the physical protection of nuclear facilities, including radioactive waste belonging to these facilities in accordance with regulations and guidelines to be issued from time to time.

⁵⁴ Source: Sobia Saeed Paracha, Strategic Export Control: Case Study of Pakistan, *SASSI Research Report*, No.8, (Oct. 2009), p.8

⁵⁵ PNRA was renamed in 2001 by the Ministry of Law.

During a visit to the Ministry of Foreign Affairs, this researcher was informed that it is seeking to follow the latest IAEA recommendations on the physical protection of nuclear material and facilities contained in INFIRC 225/Rev.4.⁵⁶ Furthermore, the PNSPR require the reporting by the licensee of any loss, theft or damage within 24 hours. The Gazette of Pakistan SRO), Part II, 2004⁵⁷ clearly defines PNRA responsibilities regarding the import and export of nuclear and radioactive material. The Ministry of Commerce annual report lists materials subject to PNRA licences for imports and exports and thus provides the basic data for enforcement by Pakistan customs. The PNRA in collaboration with the IAEA has arranged training sessions for personnel since 2005, training which is ongoing. The IAEA continues to cooperate with Pakistan.

Second. On 30 April 2007, Pakistan's Qasim port came under the US Secure Freight Initiative, a programme aligned with the US Container Security Initiative (CSI) under which all US bound container cargo will be screened.⁵⁸

Third. Two research reactors (Pakistan Atomic Research Reactor (PARR I and II) and two power reactors (Karachi Nuclear Power Plant (KANUP) and Chasma I) are under IAEA safeguards, which require strict procedures for material accountancy. In respect of Pakistan's nuclear power plant Chasma-2, which is nearing completion, Pakistan agreed with the IAEA to apply the guidelines for physical protection contained in INFIRC-225/Rev.4.

Fourth. International compliance and personal reliability programmes are being implemented in the strategic organizations. A national security action plan (NSAP) is

⁵⁶The Physical Protection of Nuclear Material and Nuclear facilities. IAEA document, document INFIRC 225/Rev.4.

<http://www.iaea.org/Publications/Documents/Infircs/1999/infirc225r4c.pdf>

⁵⁷ The Gazette of Pakistan, 'Pakistan Nuclear Regulatory Authority', 22 December 2002, document collected from the Ministry of Foreign Affairs.

⁵⁸ 'International Export Control', *CNS Publication*, pp. 15-16.

being implemented by the PNRA, which provides for national sustainability on nuclear security including the strengthening of physical protection of radioactive sources, prevention detection and response to illicit trafficking incidents, border monitoring and emergency preparedness. Pakistan is negotiating with the US on the Megaports Initiative (MPI),⁵⁹ which would involve the installation of radiation detection equipment at selected exit points to detect any unauthorized movement of nuclear and radioactive material out of Pakistan to any destination. When interviewed on 17 January 2008 for the *Global Politician*, Air Commodore Khalid Banuri, Director, Arms Control and Disarmament Affairs (ACDA) in the Strategic Plans Division (SPD), stated:

We have several layers [of security] – a multitude of systems of security and technical solutions for security, some of which are non-intrusive and invisible. There are no exceptions for anyone from the outside going into a facility. We look at each individual from various angles, something that the West knows as ‘personal reliability’, the human factor. We look into everything, background checks, medical records, police records, any history of possible impulsive behaviour. And if there is anyone who doesn’t have a smooth graph of behaviour, they are not put into any sensitive jobs. Even if there is someone in personal distress, for example because of a death in the family, there is a way for relieving them for a few days from sensitive responsibility.⁶⁰

In the context of its efforts to strengthen export controls and the establishment of an independent national export control implementation authority, Pakistan is engaging with certain countries for the procurement of equipment to enforce controls over exports of items in the national control lists which encompass the NSG trigger list and dual-use items.

Fifth. The US government supported Pakistan in terms of the Export Control and Related Border Security Assistance (EXBS) programme,⁶¹ which provides funds for training and paraphernalia for border control personnel, as well as expert-level

⁵⁹ National Nuclear Security Administration, Magaport Initiatives, (2009).

<http://nnsa.energy.gov/aboutus/ourprograms/nonproliferation/programoffices/internationalmaterialprotectionandcooperation/s-1>

⁶⁰ Ahmed Quraishi-Interview: Air Commodore Khalid Banuri - ‘Don’t Mess With Pakistan’ (17 January 2008) <http://www.globalpolitician.com/24013-pakistan>

⁶¹ <http://www.exportcontrol.org/>

exchanges on export controls, legal and regulatory reform and customs enforcement. Pakistan has also received assistance from Japan to draft its reforming legislation.⁶² Japan provided English translations of relevant Japanese export control regulations and Pakistani experts had been learning through relevant export control seminars on invitation from Japan.⁶³ Similarly, Pakistan also was offered assistance from France, which proposed a dialogue between Pakistan and the international community and suggested a non-proliferation summit.⁶⁴ The dialogue focused on strengthening export controls, greater cooperation with the IAEA, and Pakistani participation in the international non-proliferation regime. Those involved in drafting the new laws and regulations benefited from the cooperation of the world community.

Banuri stated that, instead of looking negatively on the past, the future rested on collaboration to counter future menaces. The South Asian proliferation issue has been efficiently dealt with, although work on dealing with its implications still continues.⁶⁵ Olli Heinonen has also commented that 'export control is fairly good at this point in time. Whether they have sorted out all the past proliferation cases is a matter of concern, since they have not given us a complete picture'.⁶⁶ He argues that there is still work to be done to find out more from past mistakes.⁶⁷ After having discussions with the international officials, the conclusion of this study is that effective export controls remain a global problem which eludes a comprehensive resolution.⁶⁸ Nevertheless, Pakistani officials maintain that all the information has been shared with the relevant international bodies including the IAEA and that Pakistan is working hard to further

⁶² Kamran Akhtar, Interview (Oct. 2007).

⁶³ 'The A. Q. Khan Revelations and Subsequent Changes to Pakistani Export Controls'.
http://www.nti.org/e_research/e3_54a.html

⁶⁴ Shi-chin Lin, 'A.Q. Khan Revelations and Subsequent Changes to Pakistani Export Controls'.

⁶⁵ Air Commodore Khalid Banuri and Mr. Khursheed, Interview (June-July 2007).

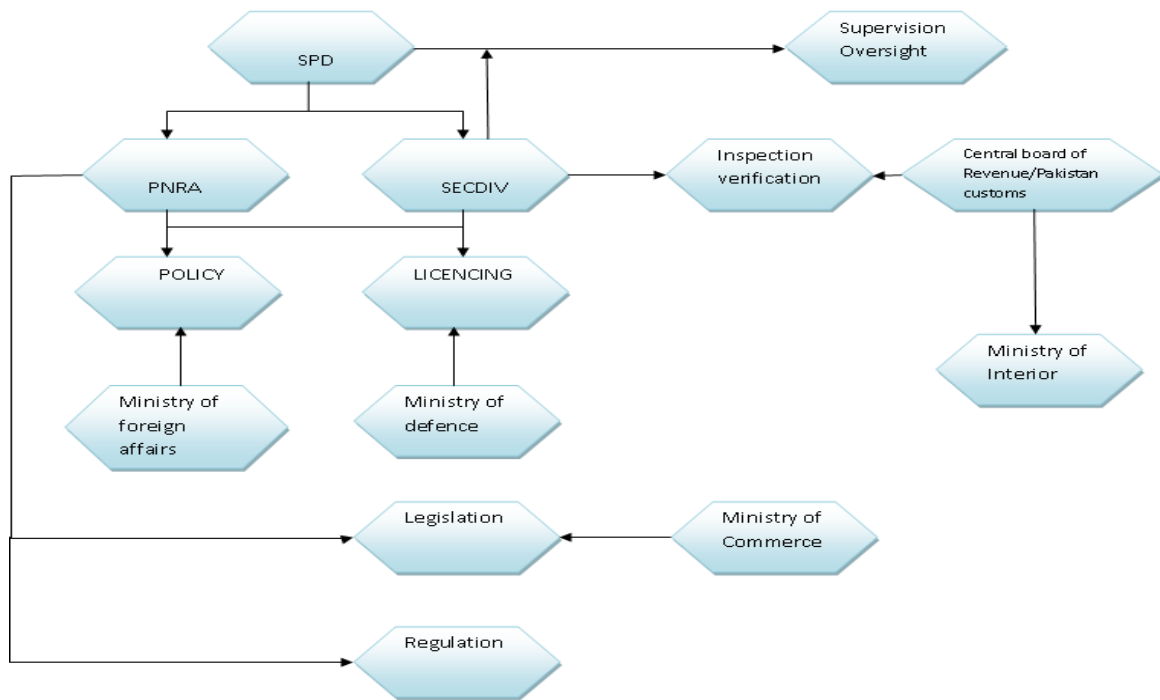
⁶⁶ Olli Heinonen, Interview (Tucson, 2009).

⁶⁷ Ibid.

⁶⁸ Colin Gutsell, Senior Consultant, Customs, Tax and Border Control Consulting, Informal Discussion (London, March 2010).

streamline the system.⁶⁹ Pakistan's behaviour as outlined above seems to exemplify the argument of regime theory and the neo-liberal school as to how institutions work and greater cooperation is made possible.

Export Control Mechanism: how it works:⁷⁰



The diagram shows that the SPD has supervision and oversight of all the other relevant agencies. The Ministry of Foreign Affairs deals with export controls and the Ministry of Defence releases licences to authorise exports. The Ministry of Commerce deals with legal measures affecting imports and exports. The Central Board of Revenue and Customs with assistance from the Ministry of Interior (regarding clearing border security on goods) controls and implements the administrative and regulatory provisions on imports and exports.

The Security of Pakistan's Nuclear Arsenal

After initiating war against al-Qaeda and the Taliban in Afghanistan in 2001, the western world had strong concerns that Pakistan's nuclear weapons and facilities and personnel might be at risk from non-state actors. The US has provided almost \$14

⁶⁹ Kamran Akhtar, Interview (Islamabad, 2008).

⁷⁰ Paracha, Strategic Export Controls', p.9.

billion from fiscal year 2002 to fiscal year 2011⁷¹ for Pakistan's co-operation. US cooperation with Pakistan also included the training of Pakistani security staff by the US National Nuclear Security Administration (NNSA) and briefing them on issues of personal reliability.

On the security of its arsenals, the Pakistan Foreign Office declared in 12 November 2007 that the country 'possesses adequate retaliatory capacity to defend its strategic assets and sovereignty'.⁷² Islamabad further declared that its nuclear weapons had been placed under a 'strong multi-layered, institutionalized decision-making, organizational, administrative and command and control structure since [1999]'.⁷³ General Khalid Kidwai contended that 'if we can make nuclear weapons and the delivery systems we can also make them safe. Our security systems are foolproof'.⁷⁴ President Musharraf during his tenure revealed that command and control system was delegated in a secure manner and capable of withstanding any threat arising from terrorists.⁷⁵ The above claims by Islamabad show a considerable degree of confidence in the security of its nuclear arsenal.

A Pakistan government spokesman has stated since that 'Pakistan's nuclear programme is under the capacity of very safe hands. We assure the world community that such incidents will not occur again'.⁷⁶ During a discussion, a British official from the Foreign Commonwealth Office, London, remarked that the 'UK is well content with the government of Pakistan in terms of nuclear-related issues since it has shown full

⁷¹ Statistics prepared for the Congressional Research Service by K. Alan Kronstadt, Specialist in South Asian Affairs, 4/15/09 and subsequently updated to include estimates for 2011: www.fas.org/sgp/crs/row/pakaid.pdf

⁷² 'Strategic Assets are safe, Says FO', *Dawn* (13 November 2007).

⁷³ Quoted in Paul Kerr and Mary Beth Nikitin, 'Pakistan's Nuclear Weapons', *CRS Report for Congress* (23 Feb. 2010), p. 8.

⁷⁴ Quoted in Ali Ahmed, 'Pakistan's Nuclear Assets', *CBRN South Asia Brief* (February 2009).

⁷⁵ Sarah Bokhari, 'The United States' dealings with nuclear terrorism: Cooperation for prevention', *Journal on Science and World Affairs*, Vol.2, No. 1, p.34.

⁷⁶ Abdul Basit, formerly Deputy High Commissioner, Pakistan and former Director Disarmament Cell Ministry of Foreign Affairs, Pakistan. Campaign on Disarmament (CND) Conference, Leicester, UK (2005).

cooperation. Pakistan's nuclear export policies have changed and we are confident in Pakistan'.⁷⁷ In 2004 the Foreign Affairs Select Committee wrote,

The UK, together with other countries, remains in contact with the Government of Pakistan over the action it is taking to ensure there is no further proliferation of nuclear technology. In particular, we are calling on Pakistan to introduce effective export controls including an end-use control. We are ready to work with Pakistan to develop effective legislation and implementation mechanisms. We have also offered assistance with safety and physical security measures for Pakistan's nuclear facilities as foreseen in the Bradshaw Statement of 15 March 2002.⁷⁸

The US government believes in Pakistan's competence to secure its arsenals from a terrorist threat. John D. Negroponte, then deputy Secretary of State, expressed the view on 7 November 2007 that Pakistan's nuclear weapons are placed under 'effective technical control'.⁷⁹ Another Deputy Secretary of State, Richard Armitage, commented that the US would not intervene in Pakistan militarily because 'we have spent considerable time with the Pakistani military, talking with them and working with them on the security of their nuclear weapons'.⁸⁰ These assertions reveal a deep US cooperation with Pakistan. Pakistan's cooperation in fighting the war against Al-Qaeda in Afghanistan shows the degree of confidence expressed in these remarks.

Furthermore, Pakistan's nuclear weapons are stored unassembled and separated from the non-nuclear explosives and stored detached from delivery vehicles. However, it is believed that Pakistan has the capacity to assemble them quickly.⁸¹ Owen Bennett-Jones estimates that Pakistan might have only 3 minutes to respond to an Indian

⁷⁷ Anonymous official (2006).

⁷⁸ Foreign Affairs Commons, Foreign Affairs - Seventh Report, *Foreign Affairs Committee Publications*, Session 2003-04. <http://www.publications.parliament.uk/pa/cm200304/cmselect/cmaff/441/44102.htm>

⁷⁹ House Foreign Affairs Committee Hearing on Democracy, Authoritarianism and Terrorism in Contemporary Pakistan (7 Nov. 2007).

⁸⁰ Quoted in Paul Kerr and Mary Beth Nikitin, 'Pakistan's Nuclear Weapons', p. 10.

⁸¹ Department of Defence, 'Proliferation: Threat and Response', *Department of Defence, United States of America* (January, 2001), p. 28.

attack.⁸² As some Pakistani analysts have acknowledged, ‘the command and control structure has to take into account the possibility that an Indian first strike would disable at least some elements of the nuclear leadership. Consequently, not only the authority to launch an attack but also the technical know-how for doing so has to be passed down the chain of command. That plainly increases the possibility of unauthorised use.’⁸³ Shaun Gregory claims that the Army’s military intelligence holds the secret codes but states that in an interview in 2005 General Kidwai claimed there were both enabling and authenticating codes. This is a great advantage because the storage of unassembled weapons secures them against any threat of accident or theft. Pakistan redeployed its nuclear arsenals to at least ‘six secret new locations’⁸⁴ after the US attack on Afghanistan in 2001. It took this policy shift after joining the US war against the Taliban in 2001 and after the 1999 and 2001–2002 conflicts with India.

A State Department spokesperson, Robert Wood, stated, ‘Pakistan’s nuclear arsenal is dispersed. There is a very solid command and control structure in place with regard to that arsenal’.⁸⁵ General David Petraeus has also expressed confidence that Pakistan’s nuclear sites are secure.⁸⁶ Banuri contended,

If anyone even claims he knows where our weapons are, they are wrong. And if they think they do, they are in for rude shock. Even within the system, if someone doesn’t need to know about sensitive sites, they don’t have that information. So very few in Pakistan would know where they are.⁸⁷

⁸² Owen Bennett-Jones, *Pakistan: Eye of the Storm* (3rd edn., New Haven and London: Yale University Press, 2009), p.222.

⁸³ Shaun Gregory, ‘The Terrorist Threat to Pakistan’s Nuclear Weapons’, *Combating Terrorism Centre at West Point*. Vol.2, Issue 7 (Jul 2009). p.2

⁸⁴ Quoted in Paul Kerr and Mary Beth Nikitin, ‘Pakistan’s Nuclear Weapons’, p. 6. Also see Molly Moore and Kamran Khan, ‘Pakistan moves Nuclear Weapons – Pakistan Says Arsenals are Now Secure’, *Washington Post* (11 November 2001).

⁸⁵ Chronology of Events. Rekha Chakravathi and D. Suba Chandran (eds.), *Institute of Peace and Conflict Studies Report*, Vol. 2. No. 6 (June 2009).

⁸⁶ Ibid.

⁸⁷ Ahmed Quraishi, ‘Interview: Air Commodore Khalid Banuri - “Don’t Mess With Pakistan”’ (17 January 2008) <http://www.globalpolitician.com/24013-pakistan>

Pakistan's decision to join the international alliance in the global war on terror and to shut down A. Q. Khan's network and share information with global institutions such as the IAEA, aligning its internal controls with Resolution 1540 in particular, suggest the relevance of regime theory and the neo-liberal argument. Subsequently, however, further doubts have arisen because of the internal insurgency caused by the Pakistan Taliban who have currently attacked Pakistan Army General Head Quarter (GHQ), Rawalpindi.⁸⁸ Some analysts are concerned that the state's nuclear weapons may fall into the wrong hands or be targeted.⁸⁹ Hans Blix has remarked that 'Pakistan's instability on the domestic front scares me a lot'.⁹⁰ In a recent article published in newsletter of the Combating Terrorism Centre of the US Military Academy at West Point, Shaun Gregory wrote that 'several militant attacks have already hit military bases of Pakistan where nuclear components are secretly stored'. He further maintained the most recent assault was in August 2008, when there were coordinated suicide bombings on the Wah Cantonment ordnance factory, which he said is considered one of Pakistan's main nuclear weapons assembly sites (it is actually a factory for conventional weapons). For him the other two attacks were in late 2007 on the Sargodha air base, which Gregory identified as a nuclear missile storage facility and the nuclear air base at Kamra.⁹¹ However, in response to these assertions, Islamabad maintains that Gregory's argument is 'factually incorrect'⁹² because none of the bases named actually had any nuclear facilities.

The Pakistan Taliban's brief takeover of areas some 60 miles from the capital, Islamabad, raised new fears about the security of Pakistan's nuclear weapons being

⁸⁸ Andrew Buncombe, 'US wants to Guard Pakistan's nuclear arsenals', *The Independent* (11 November 2009).

⁸⁹ James Action, Interview (2009).

⁹⁰ Hans Blix, Interview (2009).

⁹¹ Shaun Gregory, *Ibid.* pp.2-3.

⁹² Maj. Gen. Athar Abbas, Military spokesperson, *Dawn* (12 Aug. 2009).

seized by extremists linked to al-Qaeda, although the country insists its arsenal is secure. Stephen Cohen stated the he was ‘not worried about the question of nuclear security in Pakistan. I think everything is exaggerated in the press by journalists and so on. I think that Pakistan has instituted pretty good controls. There are dangers but the security of nuclear arsenals is not my top priority.’⁹³ The Chair of the Joint Chiefs of Staff, Admiral Michael Mullen, described US concerns on 22 September 2008:

To the best of my ability to understand it – and that is with some ability – the weapons there are secure. And that even in the change of government, the controls of those weapons haven’t changed. That said, they are their weapons. They’re not my weapons. And there are limits to what I know. Certainly at a worst-case scenario with respect to Pakistan, I worry a great deal about those weapons falling into the hands of terrorists and either being proliferated or potentially used. And so, control of those, stability, stable control of those weapons is a key concern. And I think certainly the Pakistani leadership that I’ve spoken with on both the military and civilian side understand that.

President Obama’s address in April 2009 to the press conference leaves no doubt concerning these speculations:

I’m confident that we can make sure that Pakistan’s nuclear arsenal is secure, primarily, initially, because the Pakistani army, I think, recognizes the hazards of those weapons falling into the wrong hands. We [have] got strong military-to-military consultation and cooperation.⁹⁴

President Obama further stated that he was ‘confident that the nuclear arsenal will remain out of militant hands’.⁹⁵ General Petraeus also maintained on 10 May 2009 that ‘with respect to [the] nuclear weapons [and] sites that are controlled by Pakistan ... we have confidence in their security procedures and elements and believe that the security of those sites is adequate’.⁹⁶ General Ehsan said in reply to the question asked for this study: ‘I can assure you, that the safety and security arrangements we have are world

⁹³ Stephen P. Cohen, Interview (2009).

⁹⁴ President Obama’s 100th-Day Press Briefing transcript (29 April 2009).

⁹⁵ Ibid.

⁹⁶ Kerr and Nikitin, ‘Pakistan’s Nuclear Weapons’, p.1.

class. In many ways they are stringent and we studied their procedures, we very carefully make sure that we achieve those international standards.’⁹⁷ In any case, the gains of the Pakistan Taliban were reversed by the military, albeit at the price of significant casualties and the displacement of the civilian population, in 2009–10. All these above assertions very strongly relate the case of Pakistan’s nuclear behaviour with regime theory and neo-liberal school that cooperation is possible and institutions play a key role. This shows that Pakistan has in fact established a new nuclear taboo against proliferation of nuclear weapons.

The argument presented here is that Islamabad and Washington have been negotiating on expanding the US role in securing Pakistan’s nuclear weapons programme, including proposals to secure radioactive materials that could be used in a ‘dirty bomb’ or to transfer highly enriched uranium to the US for terrorist purposes.⁹⁸ However, Pakistan maintains that it does not accept US expertise to strengthen the security of its nuclear weapons programme, stating that its command and control framework is ‘completely indigenous’.⁹⁹ US Defence Secretary Robert Gates has stated that Washington is comfortable with the security of Pakistan’s nuclear arsenal. He commented: ‘We’ve given [the Pakistanis] assistance in improving their security arrangements over the past number of years ... Based on the information available to us that gives us the comfort.’¹⁰⁰

On the question of the safety and security of nuclear weapons at a time of insurgency, General Ehsan stated, ‘you may have doubts about individuals when it comes to the government or state as a whole, but there is no question that Pakistan has

⁹⁷ Gen. Ehsan, Interview (2009).

⁹⁸ Bryan Bender, ‘Pakistan US in Talks on Nuclear Security’, *Boston Globe* (5 May 2009).

⁹⁹ Gen. Ehsan, Interview (2009).

¹⁰⁰ Declan Walsh, ‘US “Comfortable” with Pakistan’s Nuclear Arsenal, says Robert Gates’, *Guardian* (6 December 2009). <http://www.guardian.co.uk/world/2009/dec/06/pakistan-nuclear-us-gates-taliban>

the capacity to carry out its threat perception and to respond to a threat and to handle issues of peace and war.’¹⁰¹

He further contended that the security of the nuclear arsenal is not an issue,

what is overloading and burdening us is the open border which Afghanistan does not want us to close, and which NATO and the American have failed to [bring about]. Even people like Karzai couldn’t be convinced [on this] for the last 8 years. Seal this border: what is your problem if you want peace in Afghanistan and Pakistan? An open border creates the presence of 2 and half million Afghan [refugees, some of whom are potential terrorists] on the soil of Pakistan. The unresolved [problem of] Kashmir, and Indian interference in Balochistan and Afghanistan are the problems. India is one problem, Afghanistan is the second problem and the US blame game – the drone attacks – is the third problem. We are a soft state [a state which has insufficient control over its border is a ‘soft state’]. We should be able to control our borders; it’s not impossible but difficult.¹⁰²

The contention of this study is that the world community needs recognise Pakistan’s efforts. Pakistan is fully aware of the threat of nuclear terrorism. No state would be immune from the devastating consequences of an act of nuclear terrorism anywhere in the world. There is need for further confidence building in its cooperation-based approach to address the threats at both the regional level and global level.

Conclusion: relevance of regime theory

After the revelations of Khan’s activities, the changes in Pakistan’s nuclear behaviour appear highly significant. Pakistan has tightened the security around its nuclear material and facilities and strengthened its export controls, seeking to align itself with international standards while remaining a non-NPT state. End users’ requirements and verification procedures exist. The end-user practices will be further updated, harmonized and made consistent with international standards under the Export

¹⁰¹ Gen Ehsan, Interview (London, 2009).

¹⁰² Ibid.

Control Act 2004 by the new national export authority which will soon be established. Pakistan is engaging with the international community to learn from their best practices and experiences. Prime Minister Yousaf Raza Gilani declared during the Washington Summit (April 2010): 'Pakistan is ready to share with nations its competence in the area of nuclear security, particularly prevention, detection and response to illicit trafficking'.¹⁰³ He further declared that 'nations need to cooperate with each other in acquiring reliable nuclear security and that India needed to work with Pakistan to protect South Asia against a nuclear disaster'.¹⁰⁴ Pakistan's approach here relates to the tenets of regime theory and neo-liberal school. The argument in this study is that there is a need to formalize and institutionalise this interaction, for Pakistan to keep abreast and benefit from the experiences of the international export control regimes. These regimes, whose standards Pakistan has adopted, should make Pakistan a full partner. Pakistan is fully alive to the threat of nuclear terrorism. Consistent with its national security interest, Pakistan has put in place legislative and regulatory frameworks and an organizational infrastructure to deal with the threat.

Pakistan should be made a full partner with the world community in the common endeavour against nuclear proliferation. Pakistan has made its contribution, in practice, towards establishing the new nuclear taboo against nuclear proliferation. Other states have done likewise. Not all have done so, however, and there still remain important gaps in the new counter-proliferation regime. The importance of an effective campaign against those states which are in default, and other potential weaknesses in the regime (such as non-complaint companies and rogue individual proliferators) remain. The need is to focus the attention of the international community on all such cases with the same threat of international 'pariah state' status with which Pakistan was

¹⁰³ Anwar Iqbal and Masood Haider, 'Pakistan also offers nuclear security skills to world', *Dawn* (16 Apr. 2010).

¹⁰⁴ *Ibid.*

threatened in 2003-4 had it not fallen into line with the new nuclear taboo against nuclear proliferation. The need is for fuller international awareness of the risks of proliferation and increased international recognition of the new taboo against nuclear proliferation as the essential first steps in strengthening the counter-proliferation regime.

Chapter Six

Pakistan as part of the Non-proliferation Challenges – Presenting Solutions

Part I

Introduction

After evaluating the case of Pakistan in the previous chapters, this study identifies Pakistan as one aspect of the challenges to the global non-proliferation regime that the world has been facing over the past few years. Among the challenges faced by the world community are: first, nuclear proliferation by individuals (whether the proliferation of knowledge or materials) as discussed above in the case of Pakistan, which might re-occur in any part of the world. Second, after the 9/11 attacks in the US and the subsequent wars in Afghanistan and Iraq there are increased risks of nuclear terrorism. This is because Al-Qaeda and the Taliban have turned against the West and there is a danger that they may get hold of nuclear weapons or material to use against it. A third challenge is the behaviour of newly emerging nuclear states seeking to acquire a nuclear weapons capability: the North Korean withdrawal from the NPT and aggressive Iranian behaviour in breach of non-proliferation norms both endanger the non-proliferation regime. Fourth, the nuclear black market in material and technologies, dual use technologies and loose export controls in the world remain of concern. Fifth, non-party states to the NPT and the ‘accidental’ use of nuclear weapons by new NWS, such as in South Asia, now endanger the nuclear taboo.

This study also suggests that the nuclear non-proliferation regime itself faces a range of difficulties and challenges. For example, within the non-proliferation regime,

most states adhere to a greater or lesser extent to the terms initiated by the NPT, but India, Israel and Pakistan have never joined the NPT, although they developed nuclear arsenals and declared themselves to be nuclear weapons states, whilst Israel has maintained the policy of ‘nuclear opacity’ and ambiguity. India and Pakistan assert their sovereign right to possess nuclear weapons and have strong concerns about the NPT, regarding it as a discriminatory treaty, as discussed earlier. North Korea first joined the NPT, then withdrew in 2003 and later tested nuclear devices, thus violating treaty norms. The non-proliferation regime is incomplete when four *de facto* nuclear weapons states (India, Israel, Pakistan and North Korea) remain outside the NPT treaty.

Over the last 35 years, the IAEA safeguards system under the NPT has played a vital role in detecting and curbing the diversion of civil uranium to military usage and verifying states’ nuclear facilities. However, these IAEA safeguards confront a number of challenges, such as detecting undeclared nuclear activities; risks from the states which have not joined the NPT; and states which have significant unsafeguarded activities. Additionally, in relation to multilateral export control regimes, the controls have not been sufficiently improved and cooperation and coordination among the AG, the NSG, the MTCR and WA appears ineffective to date, thus leaving the survival of these regimes under threat. These multilateral regimes seek to operate a tight control on sensitive exports to states such as Iran, North Korea and Libya but there is no equivalent for more developed states, particularly China. Harmonization of export controls appears low even among the advanced states such as the US, Japan and the European Union. Nevertheless, some of the states have made improvements in their national export control system since the 1990s (such as Germany, Japan and certain other European states). Pakistan is one of those states which has improved its export controls but which still needs to be brought fully into line with improvements worldwide. The export

control system and policies of several major suppliers and transit states, including some key members of the multilateral export control regimes, are not fully compatible with international standards. States outside the export control arrangements such as India and Singapore do not adhere to any current multilateral export control guidelines. China, Israel and Russia subscribe to some but not all of the existing guidelines. Many countries appear to lack the commitment to implement compatible controls effectively.

The non-proliferation challenges facing the world today require immediate attention for the strengthening of the NPT and the multilateral export control regimes. Improving the internal workings and coordination among the multilateral export control regimes alone will enhance global security. Unless the momentum behind the NPT is revived and export controls continue to be strengthened, a disaster for the non-proliferation arrangements is predictable. As discussed above, regime theory and differences between the three schools of thought – realism, neo-liberalism, and constructivism in international relations, each of which emphasize a different variable to account for international regimes – provide a lens through which to examine the role of the NPT and multilateral export control arrangements.

Pakistan as a part of Non-Proliferation Policies and global problems

This section links Pakistan's problems with the nuclear non-proliferation policies, rules and current existing loopholes within the non-proliferation system. The problems of the state of Pakistan cannot be addressed or dealt in isolation from the problems within the non-proliferation system and the international institutions. Why do realists limit the role of cooperation and what are the problems with the NPT and multilateral export control regimes which also reflect the case of Pakistan? This part of

the study evaluates how regime theory is misunderstood in the area of international security and non-proliferation. Part II of this chapter presents solutions to strengthen the international non-proliferation system, specifically with regard to Pakistan taking guidelines from regime theory.

NPT (incorporating the IAEA safeguards): Limits and basic problems – aligning with the case of Pakistan

The NPT treaty was institutionalized on the basis of its articles and enshrined in three basic bargaining pillars as discussed in chapter one part 2. This study has shown in previous chapters how states may choose to break away from institutional cooperation and operate in a self-help situation, as argued by the realist school, when the world community failed to achieve the goals set by the treaty. The US ‘dissuasion strategies’, as defined by Sagan, that ‘foreign governments will be constrained from developing advanced weapons capabilities by their belief that US offensive and defensive military capabilities are so strong that their quest for such capabilities would at best [be too expensive], and at worst be futile’¹ are relevant in this context. Yet the continuing US superiority over other states runs contrary to the commitment in Article VI to work towards a general and complete disarmament. No progress had been made to work towards the total elimination of nuclear weapons (at least until President Obama’s initiatives, discussed below in detail), which has further aggravated the ‘Crisis of Trust’ in the NPT regime. Although the US and Russia agreed in the past to reduce the number of nuclear arsenals on alert over a 10-year period,² nevertheless, both still possess thousands of nuclear weapons in their stockpiles. Arms reduction efforts such as the

¹ Scott D. Sagan, ‘Dissuasion and the NPT Regime: Complementary or Contradictory Strategies?’, *Strategic Insight*, 3 /10 (October 2004).

² Michael Lipson, ‘Organized Hypocrisy and the NPT’, Paper prepared for presentation at the American Political Science Association Annual Meeting, Washington D.C, 1-4 September 2005 available at http://alcor.concordia.ca/~mlipson/apsa05_proceeding_40783.pdf

Anti-Ballistic Missile (ABM) treaty and the Strategic Arms Reduction Treaty (START II) were entirely abandoned after 2001³ (until President Obama's new initiatives discussed below) as was progress towards START III. Limited Ballistic Missile Defence (BMD) will encourage hostile states towards the acquisition of Weapons of Mass Destruction (WMD). The US furtherance of both Theatre Missile Defence (TMD) and National Missile Defence (NMD), and the modification of anti-nuclear norms – for example, by negotiating a separate nuclear deal with India – also threatens the non-proliferation arrangement.

Britain has decided on a replacement of the Trident Ballistic Missile Submarine (SSBNs) with a more advanced system by 2024. The UK government's reconsideration of the renewal of its nuclear capabilities and policy of replacement of the Trident has further accelerated the ambitions of the other states about their weaponization policies. Russia is developing new land-based Intercontinental Ballistic Missiles (ICBMs) and Ballistic Missile Submarines.⁴ The Chinese are developing new ICBMs, models DF31 and DF31A and submarine-launched Ballistic Missiles JL-2 SLBMs.⁵ Smaller and smaller reductions by the NWS in their arsenals raise added concerns.

Article IV of the NPT has failed to restrict states' access to the full fuel cycle, preventing the diversion of peaceful technology to develop nuclear weapons and in revising the NPT 90 days' withdrawal clause. In practice, the treaty enforces double standard rules and confers an unequal status on nuclear and non-nuclear weapons states, setting different rules of behaviour for these categories. One standard is less restrictive for the NWS and another places greater demands on the NNWS.⁶ Such double standards

³ Both the US and Russia had deployed around 10,000 strategic nuclear warheads which were reduced to 6,000 by 2001.

⁴ Lipson, 'Organized Hypocrisy and the NPT', p.19.

⁵ Ibid.

⁶ George Perkovich, 'The End of the Non-proliferation regime?', *Current History* (November 2006), p.355.

have strengthened the 'Crisis of Trust' in the NPT regime. Therefore, the treaty regime has left the less powerful states fearful and encouraged the NNWS to seek to acquire nuclear weapons. After the legalization of the NPT, the regime appeared as an overlapping web of agreements, norms, rules and expectations, both formal and informal. The powerful states sought to act as the 'principal guardians of the regime'⁷ from its inception. States were meant to strengthen alliances, construct coalitions, and forge relationships to preserve the three main pillars of the NPT but the influential role of the powerful states with regard to the treaty has had a damaging effect.

The failure of the NWS to universalize the treaty and to improve compliance mechanisms has been called 'organized hypocrisy'. Lipson defines organized hypocrisy from Krasner's work, as 'a condition in which institutions are durable but weakly institutionalized and therefore frequently infringed'.⁸ The argument presented here is that the US's 'selective approach towards non-proliferation'⁹ risks widening the gap and between the nuclear 'haves' and 'have-nots'.¹⁰ From the outset, the US had provided a protective umbrella to Israel since there was no regional opposition to its possession of nuclear and thermonuclear weapons.¹¹ Furthermore, the discriminatory US-Indian nuclear deal, which permits the US to trade nuclear material, including fuel and information to India¹² with no requirement for India to dismantle its nuclear arsenals or join the NPT has legitimized India's nuclear weapons programme outside the NPT. It is unlikely that this deal will bring India's nuclear programme under full international

⁷ Glenn Chafetz, 'The Political Psychology of Nuclear Weapons', *The Journal of Politics*, 57/3 (August 1995), p.743.

⁸ Lipson, 'Organized Hypocrisy and the NPT', p.5.

⁹ Barnaby, et al., 'Constructive Approaches to Limiting the Spread of Nuclear Weapons: Some Proposals for Government Action', p.6.

¹⁰ David Patrikarakos, 'Nuclear "haves" and "have-nots"', ISN Security Watch (10 May 2010): <http://www.isn.ethz.ch/isn/Current-Affairs/Security-Watch/Detail/?lng=en&id=116004>

¹¹ Barnaby, et al., 'Constructive Approaches to Limiting the Spread of Nuclear Weapons: Some Proposals for Government Action', p. 6.

¹² Jonathan Manthorpe, 'Amid uproar, India gets its nuclear deal back on track', *The Vancouver Sun* (23 July 2008).

inspection, leaving the eight Indian reactors unsafeguarded, further expanding Indian fissile material and nuclear weapons production ‘to some 280 nuclear weapons’¹³ per annum. The agreement requires safeguards on only half of India’s facilities¹⁴ and the failure to arrange safeguards for all sites is unprecedented.¹⁵ Furthermore, India also has the privilege to abrogate the safeguard agreements in the eventuality that shipments from the US are reduced at any time in the future.

This deal has had damaging effects on the spirit of the non-proliferation regime in which states’ relative gains appear relevant. As Condoleezza Rice remarked, ‘developing civil nuclear cooperation with India represents the promise of this new partnership’. She pronounced the US–Indian deal ‘a strategic partnership, [which] enhanced energy security, greater environmental protections, increased business opportunities and of course [promised] a more secure future’.¹⁶ Hyder maintains that the US–Indian strategic partnership prepares India ‘strategically and economically’ to counter the Chinese ‘powerhouse’, leaving Pakistan with no option but to ‘maintain its credible minimum nuclear deterrence’.¹⁷ Such deals will not only affect states’ behaviour outside the NPT but may lead states within the NPT to reconsider their position.

Where does Pakistan stand in relation to the US–India deal? As Shoukat Aziz, the former Prime Minister, declared, ‘a selective and discriminatory approach will have serious implications for the security environment in South Asia’.¹⁸ The US–India

¹³ Tariq Osman Hyder, ‘Pakistan and the Regional Situation’, Oxbridge Lecture, Sir Syed Memorial Society, Islamabad (30 April 2009).

¹⁴ Philip Maxon, ‘The US–India Agreement and its Impact on the [Non-proliferation] Regime’, *BASIC Getting to Zero Papers*, Number 6, available at <http://www.basicint.org/gtz/gtz06.pdf>

¹⁵ Transcript of opening presentation for ‘The Future of the Indian Nuclear Deal: Key Issues before the IAEA, NSG and US Congress’, Arms Control Association, 30 July 2008.

¹⁶ Address by Condoleezza Rice, ‘The US–India Civil Nuclear Cooperation Initiative’, *Senate Foreign Relations Committee* (5 April 2006): <http://foreign.senate.gov/testimony/2006/RiceTestimony060405.pdf>

¹⁷ Tariq Osman Hyder, ‘Pakistan and the Regional Situation’.

¹⁸ Green and Franzoni, ‘Uranium, India and the Nuclear Non-Proliferation Regime’.

nuclear deal further exacerbates Pakistan's concerns towards a Fissile Material Cut-off Treaty (FMCT).¹⁹ The case presented here suggests that, by creating advantages for India, the non-proliferation regime has been weakened rather than strengthened.²⁰ In return for concessions on access to nuclear technology, India should have been made to accept the CTBT and cease production of fissile material. Yet on the contrary, the IAEA diluted its safeguards standards for India. The question thus arises as to why other non-NPT states should not be given comparable concessions. Pakistan maintained that a package approach including concessions to both states while committing both to certain non-proliferation obligations as well as restraint and arms limitation measures in South Asia would have been more effective.²¹ It would have had significant benefits for the non-proliferation regime and introduced stability in South Asia.²² However, the US extends the policy of double standards. George Perkovich quotes R. Nicholas Burns (the Undersecretary of State for Political Affairs in the Bush Administration between 2005 and 2008, who helped negotiate in US–India nuclear agreement): ‘if people are bothered by double standards in the world, they happen all the time. We treat law-abiding democratic countries that are friends of ours differently than law-breaking authoritarian

¹⁹An FMCT does not address existing fissile material stock (both the US and Russia possess the largest stockpiles) or verification which will further freeze asymmetries between the NWS and particularly the non-NPT states in South Asia. Pakistan strongly extends support to include existing stocks otherwise the inequalities will be strengthened enormously.

²⁰ Perkovich notes that the US–India nuclear cooperation treaty ‘abandoned a long-standing international approach to non-proliferation that prohibited nuclear cooperation with any states that do not apply international safeguards on all of their nuclear facilities’. Perkovich, ‘Democratic Bomb’, p.3. Daryl G. Kimball takes a similar approach, arguing that ‘the India-specific exemption from nuclear trade rules adopted in 2008 is a body blow to the treaty because it extends to a non-NPT state the peaceful nuclear use benefits that have been reserved so far only for states that meet their non-proliferation obligations. It has led Pakistan to seek a similar deal and block negotiations on a treaty to stop fissile production for weapons.’ Kimball, ‘Strengthen the Non-proliferation Bargain’, *Arms Control Today* (May 2010): http://www.armscontrol.org/act/2010_05/Focus

²¹Email correspondence with Kamran Akhtar, Director, Disarmament Cell, Ministry of Foreign Affairs, Pakistan (26 March 2009).

²²Ibid.

²³Ibid.

governments.’²³ The US revises the rules and then enforces them whenever it serves its interest as highlighted by the realist school.

In this study it is argued that the actions of the powerful states towards non-proliferation have had a much greater effect on non-NPT states’ behaviour and in shaping their foreign policies than is commonly recognized; and that the domestic preferences and pressures which originate from ‘public opinion’²⁴ which are embedded in domestic norms also have an effect on states’ behaviour towards the direction and implementation of policy in the nuclear area. In addition to domestic norms and public opinion, states’ national interests such as security compulsions determine foreign policy decisions. The argument then explains that the failure of the NWS to subscribe fully to their NPT obligations and their unwillingness to cooperate with non-party states on measures such as the provision of security assurances encouraged non-party states to adopt the nuclear option. If international institutions had regulated Indian behaviour correctly before 1974 the world would not be as dangerous as it seems today. India refused to sign the NPT when it became clear that, instead of addressing the ‘central objective of universal and comprehensive non-proliferation, the treaty only legitimized the continuing possession and multiplication of nuclear stockpiles by those few states possessing them’.²⁵

However, the Indian drive towards the acquisition of nuclear weapons transformed Pakistan’s policy of seeking to comply with NPT obligations. Agha Shahi stated that ‘the position of Pakistan with regard to signing the treaty will turn on consideration of its own enlightened national interests and national security in the geo-

²³ Perkovich, ‘Democratic Bomb’, p.3.

²⁴ Tannenwald, *The Nuclear Taboo*, p.48.

²⁵ Embassy of India, ‘Nuclear Non-Proliferation’ at http://www.indianembassy.org/policy/CTBT/embassy_non_proliferation.htm

political context of the region in which Pakistan is situated'.²⁶ Pakistan's policy in pursuit of a NWFZ in South Asia was thwarted when India changed its security parameters in 1998. Thus, this study concludes that the behaviour of non-party states (particularly Pakistan) is influenced mainly by regional developments and the conduct of the NWS. Just as the Chinese modernization of its defence capabilities, similar to the rest of the NWS, shaped Indian behaviour, in parallel the Indian reaction to Chinese and NWS' developments influenced Pakistan to follow suit, especially since India and Pakistan had fought three wars since 1947 and the thorny issue of Kashmir awaits resolution. Thus, the argument in this study concludes that addressing Pakistan's nuclear behaviour while disregarding India's behaviour or that of the NWS is unlikely to yield dividends. Pakistan's nuclear behaviour is a key part of the problem of the global non-proliferation system which can only be resolved as suggested by regime theory in Part II of this chapter.

IAEA under the NPT

The nuclear fuel making – which is regarded as a right under Article IV of the NPT – creates many problems because verifying enrichment or reprocessing facilities is a difficult task. When NNWS produce nuclear fuel they are called 'virtual nuclear weapons states'.²⁷ If the IAEA cannot effectively safeguard nuclear materials needed for civilian purposes then it is a great drawback in the agency's ability to prevent such 'virtual nuclear weapons states' from becoming active nuclear weapons states.

The major risk for the 'horizontal proliferation' of nuclear weapons arises from the countries which have not joined the NPT Treaty and states which have

²⁶ Quoted in Bhumitra Chakma, 'The NPT, CTBT and Pakistan: Explaining the Non-adherence Posture of a De Facto Nuclear State', p.270.

²⁷ ElBaradei, 'Addressing Verification Challenges', Symposium on International Safeguards, Vienna, Austria, 16 Oct 2006.

unsafeguarded activities. The IAEA, however, has been addressing the issues of verification and non-compliance along with other non-proliferation related issues to transform its safeguards system. The safeguarding of bulk handling facilities and detection of undeclared facilities with regard to enrichment are other challenges that remain. Sensitive nuclear items placed on the ‘trigger list’ require safeguards reporting. However, Dr. ElBaradei has highlighted that the ‘Agency does not obtain systemic information from the NSG regarding imports and exports which shows an obvious gap in the system’.²⁸ The AP addresses such gaps; without the protocol, the Agency cannot watch the research and development activities of, for example, Iran to analyze Iranian capacity building. States which have mastered uranium enrichment and plutonium reprocessing and then decide to withdraw from the NPT create great challenges for the Agency.

Developing states such as Pakistan mainly regard it as an institution influenced by the powerful states to achieve their purposes. The IAEA is not awarded full autonomy to implement the non-proliferation regime. All non-party states to the treaty should be placed within the IAEA and UNSC framework on an equal basis to overcome ‘the crisis of trust’ which relates this case to the argument of the realist school. In the case of Pakistan, the IAEA has no authority directly to involve its team for the inspection of its facilities in the past or in the future. Some of Pakistan’s nuclear power plants are under the IAEA safeguards. To have safeguards on all its facilities, Pakistan should be the part of the NPT.

²⁸ Ibid.

Multilateral export control regimes - Limits and basic problems

Despite the norms against nuclear non-proliferation and the strengthening of export control arrangements, India, Pakistan, North Korea and Iran speeded up their existing nuclear programmes or initiated new ones. The multilateral arrangements provide states with an opportunity to exchange and share information regarding their national export control policies and system. To date, there are major differences and problems in the states' national export control systems such as 'variation in products and country lists, export licensing, penalties, industry outreach programs, intelligence sharing, computerization, international cooperation among agencies, funding, controls on transit trade',²⁹ end-use controls, catch-all controls and verification standards. Several East Asian states do not appear to control the export of sensitive technologies. One country does not have controls over all the items highlighted in the multilateral lists while another does not have any control on the goods and the lists initiated by the NSG and the AG. A third country has no legal controls on dual-use items that may be diverted for the use of chemical or biological weapons while another holds no formal control on the items on the CWC schedules or on biological weapons.

Export control regimes are under challenge because of globalization, one consequence of which has been the easy exchange and transfer of knowledge and the flow of dual-use technologies. Rapid technological advances – bringing a decrease in the value of old technology and an increase in the supply of discarded technology – increases the risk of the proliferation of nuclear-related material and technologies. There is a spread of destabilizing technologies that could fall into wrong hands. In the past, there were few states selling dual-use technology but in today's world a large number of states and firms are supplying high tech dual-use machinery. Such technologies increase

²⁹ Gupitt, 'Multilateral Non-proliferation Export Control', p.6.

the threat of proliferation. The majority of Asian states also do not have legislation on the re-export of products and material nor transshipment controls.³⁰ Problems (imports and exports) traced from Pakistan are one major part of these developments. This part of the study diagnoses the main loopholes in the existing multilateral export control regime. States such as Pakistan's behaviour directly links with the global developments.

The arrangements require a single set of rules and defined norms which need to be applicable on all equally. Information is not well shared among members of the export controls regime. There are two kinds of information shared among member states: information regarding export licence denials; and information on technologies and material that may be of interest to the proliferators. Some states collect information through their intelligence agencies and some of this is shared during the annual meetings. More sensitive information is only shared among the main supplier states. Smaller states tend to be weak in information gathering. There is, however, a need to enhance multilateral information sharing mechanisms. The more states share the information, the fewer dangerous transfers will take place. This is why there is urgent need to bring more states into the regime so that information sharing will render enforcement measures against proliferators more effective. To date, the export control regime has failed to change the behaviour of their member states behaviour. For example, one member is allowed to supply items which were denied by another member state.³¹ Many states which are members of the NSG have not shared information yet regarding export denials yet they have shared certain information with businesses

³⁰ Scott A. Jones, 'Current and Future Challenges for Asian Non-proliferation Export Controls: a Regional Perspective', *Strategic Studies Institute* (October 2004).

³¹ Seema Gahlaut, in Daniel Joyner (ed.), *Multilateral Export Control Regime: Operations, Successes, Failure and the Challenges Ahead* (2006), p.18.

regarding suspect end users.³² As a consequence, non-members do not accept the legitimacy of the export controls regime. There is need for wider adherence to the multilateral export control regime and its guidelines including a more effective initiative towards the export control practices of transit and supplier states which rest outside the regime.

An old debate in a new context. The NPT, multilateral export control regime and IAEA safeguards have been regarded as an instrument of international cooperation but the most important regimes and rules related to nuclear weapons proliferation are promulgated and supported by the US and other powerful states. Non-observance of norms by the powerful has led to a degree of distrust – perhaps even repugnance – towards arms control among smaller states, which perceive that the powerful states crafted these regimes according to their interests. The degree of non-compliance with the NPT supports a realist interpretation, such as that articulated by John Mearsheimer – that the great powers are driven more by considerations of their ‘power’ and ‘interests’ than by normative considerations. The realist assumption that cooperation is difficult gains credence in the case of South Asia. Realists believe that the non-proliferation regime is weakening, and that this appears to reflect the interest of the great powers in the post-Cold War era. Realists regard the NPT as tantamount to a failed regime. In such a scenario regime theory loses credence. Furthermore, in the NPT, the NNWS and the NWS pledged to work in good faith toward the elimination of nuclear weapons (Article VI). There is little evidence that Article VI commitments have been taken seriously. The realist emphasis that power and interest are embedded in international institutions, where gains are not equitable, serves to undermine

³² ‘Strategy Needed to Strengthen Multilateral Export Control Regime’, United States General Accounting Office, Report to Congress Committee (October 2002) at <http://italy.usembassy.gov/pdf/other/d0343.pdf>

cooperation in the international system. However, it should be argued that cooperation is possible in cases in which gains are shared equitably and in such cases regime theory has relevance. The IAEA's role in promoting and strengthening the NPT also appears to be under the influence of the most powerful states, since it has little real autonomy and no independent self-sustaining funding arrangements: this again tends to support the realist argument that such institutions are established and financed by the powerful to meet their ends. Hence, there is an urgent need to revive the non-proliferation regime and engage the non-NPT states in the 'full spectrum of non-proliferation and disarmament standards and obligations',³³ on the lines suggested below, taking the theme from regime theory.

Part II

Solutions drawn from Regime Theory

This study has argued that regimes work well when cooperation is strengthened, trust grows, and as a consequence uncertainty and fear decrease. When states have no trust in the effectiveness of long-term norms and rules implemented by institutions, they either cooperate reluctantly or fail to cooperate at all. The distinctiveness of regime theory and the neo-liberal position is that it gives reasons for hope that the non-proliferation regime may be rescued, since it claims that institutions retain a significant role. Nuclear proliferation challenges can be met if binding institutions such as the NPT, the export control regime, and the IAEA safeguards incorporated within the NPT treaty regime are strengthened rather than allowed to falter. There is an urgent need to adjust

³³ Daryl G. Kimball, 'The NPT Hold-Out States and the Non-proliferation Regime: Fixing the Flaws in the U.S.-Indian Nuclear Cooperation Proposal', Paper presented at 18th UN Conference on Disarmament Issue in Yokohama (August 2006).

the non-proliferation regime to make it consistent with the current realities, that is, that there are eight or nine – and not five – nuclear weapons states. These are the five recognised NWS, three *de facto* NWS (Israel, India and Pakistan) and one newly emerging NWS (North Korea). Therefore, the nuclear arsenals of non-NPT states cannot be overlooked. George Perkovich considers that there are three non-NPT states [Israel, India and Pakistan] which ‘will not relinquish their nuclear holdings in the foreseeable future and that the NPT cannot feasibly be amended by regarding them as nuclear weapons states’.³⁴ Clearly, the main objective of the NPT will never be achieved by leaving these NWS outside the treaty. Instead, the very survival of the treaty will be threatened.

Perkovich correctly argues that if non-proliferation is not addressed as a world problem and its rules are not soon strengthened the world will fall into great nuclear danger.³⁵ He further believes that:

the United States does not have the luxury to refuse to deal directly with the leaders who make the nuclear policy decisions it seeks to change, whether we think they are good or bad men. Nor is the United States powerful enough to prevent future nuclear proliferation without the framework of universal rules that key states are willing to enforce. Enforcement comes when rules are fair and when the rule breakers, rather than the rule makers, are seen as arrogant and reckless. A strategy of ignoring international rules to change regimes America doesn’t like, and changing rules to reward those America favours, cannot succeed.³⁶

President Obama’s speech in Prague in April 2009 and the subsequent security summit of April 2010 represent the first step forward from his strategy of strengthening the role of international institutions and cooperation which could ensure the durability and productivity of the different partnership. Obama’s strategy seeks to build a sense of urgency and commitment worldwide; to introduce the correct rules and incentives; to

³⁴ Perkovich, ‘Strengthening non-proliferation rules and norms - the three states’ problem’, p.21.

³⁵ Perkovich, ‘Democratic Bomb: Failed Strategy’, p.6.

³⁶ Ibid.

take a partnership-based approach; to broaden the best practices exchanges and security culture efforts; and to establish mechanisms and build confidence in progress and building a multilayered defence; providing the required leadership planning and resources.

Reviewing the NPT framework in ways which may help to change the behaviour of states

The problems and loopholes discussed in the Part I of this chapter suggest that there is an immediate need to strengthen the non-proliferation treaties and agreements, revising the NPT framework which will ultimately reinforce IAEA safeguards and the multilateral export control regime. There is a need to ensure that the NPT treaty addresses the central objective of universal and comprehensive disarmament instead of legitimizing the continued possession and multiplication of nuclear stockpiles by those few states possessing them. As suggested by regime theory in chapter one, a universal treaty will strengthen the non-proliferation regime; it will command greater respect in the world community and it will challenge more effectively the question of non-compliance. The treaty's universal goals may be achieved by taking the steps outlined below.

Removing the Issue of the Nuclear 'Haves' and 'Have nots'. There is an urgent need to bridge the gap between the nuclear 'haves' and 'have-nots' by treating all states on an equal basis. The concept of 'haves' and 'have-nots' serves only to demonstrate that the NPT is a discriminatory treaty which needs to be revised. In the absence of universal and non-discriminatory disarmament, the non-party states will not accept a regime that creates an arbitrary division between nuclear 'haves' and 'have-nots'. There needs to be

an attitudinal change on the part of the NWS, which continue to retain their nuclear weapons while preaching to the rest of the world not to follow their example. If the NWS take the first initiative in giving up their nuclear weapons then there is no doubt that most of the NNWS will follow their lead. There is need to envisage a new consensus on disarmament, arms control and non-proliferation under the UN Charter, and the principle of 'equal security for all'.³⁷

Reduce the Influence of the Powerful States. The control exercised by the powerful states through overlapping institutions needs to be reduced. The balance of rights and obligations should be accepted by all equally. This would help in regulating the compliance of all states with the non-proliferation obligations. This can only be achieved through cooperation, having them on board with equal investment (in effort and finance). The initiative taken by President Obama which led to the passing of UNSC Resolution 1887 announcing 'broad progress on long-stalled efforts to staunch the proliferation of nuclear weapons and ensure reductions in existing weapons stockpiles, as well as control of fissile material' (24 September 2009) left the impression that all states could act as equal partners in promoting a stronger non-proliferation regime.³⁸ This will strengthen the hope of absolute gains in the future.

Security assurances. Security assurances from the NWS towards the NNWS are not addressed in the NPT.³⁹ The final paragraph in the preamble notes that states must refrain in their international relations from the threat of the use of force against the

³⁷ Statement by Zamir Akram, Permanent Representative of Pakistan to the UN, Geneva, in the First Committee (General Assembly), New York, 7 October 2008.

³⁸ <http://www.un.org/News/Press/docs/2009/sc9746.doc.htm>

³⁹ Though Paragraph 9 of Resolution 1887 recalled 'statements by each of the five nuclear-weapons States, noted by resolution 984 (1995), in which they give security assurances against the use of nuclear weapons to non-nuclear-weapons State Parties to the NPT, and [affirmed] that such security assurances strengthen the nuclear non-proliferation regime'.

territorial integrity or political independence of other states. A fuller provision of security assurances would discourage the ambitions of emerging states to acquire nuclear weapons. Negative Security Assurances (NSAs) – guarantees by NWS not to threaten or use nuclear weapons against NNWS – should be addressed within the NPT framework to provide a more appropriate forum. The successive interventions of the US in Afghanistan and Iraq have left less powerful states with the view that only by acquiring nuclear weapons can they be sure to prevent foreign invasions. President G. W. Bush's pre-emptive doctrine introduced a new instability in the world that led to a further acceleration of nuclear proliferation. When interviewed, Olli Heinonen stated that the only way forward is to provide the states concerned with security assurances.⁴⁰

Amend the treaty in accordance with new developments. The NPT needs to be updated to keep pace with changing technology, and other political and economic developments. The potential role of terrorists, individual proliferators and black marketers is not addressed in the NPT. However, the emerging terrorist threats have greatly increased concerns for the safety and security of nuclear weapons, materials, technologies and facilities in all regions. Measures such as the CTR initiative, the PSI and UNSC 1540 go only some way and do not address all the remaining gaps in the non-proliferation regime.⁴¹ There remains a need to review the NPT in this area. '[W]hen a culture of fear is in the air, and confidence in cooperation is fragile', it has been said, 'trust is bound to be in crisis.'⁴² Trust in the nuclear non-proliferation regime needs to be rebuilt and widened. A strengthened NPT can be a base for rebuilding trust among the nation states.

⁴⁰ Olli Heinonen, Interview (2009).

⁴¹ Jose Goldemberg, 'The Erosion of the NPT'. <http://www.npec-web.org/Essays/20070410-Goldemberg-ErosionOfNPT.pdf>

⁴² Ken Booth and Nicholas J. Wheeler, *The Security Dilemma* (New York: Palgrave Macmillan, 2008) p.275.

Set stronger anti-nuclear norms. Constructivists suggest that stronger norms setting may have an impact on the policy of states and bring them towards cooperation with the NPT. The nuclearization of India and Pakistan suggests that the international norm against the spread of nuclear weapons was not as strong as the norm – or ‘nuclear taboo’ – against the use of nuclear weapons. There is a need to formulate stronger anti-nuclear norms to prevent the acquisition and proliferation of nuclear weapons. Norms will be strengthened when they are brought fully under international law. Norms initiated under non-proliferation rules and principles should be located with the UNSC and have an equal application to all states. There is need to further strengthen the treaty rules and norms aligned with the UNSC which will reinforce the non-proliferation regime. This will help to establish the new nuclear taboo against the proliferation of nuclear weapons.

NPT withdrawal provision. The withdrawal provision in NPT Article X.1 threatens the future of the non-proliferation regime. The right of withdrawal should no longer exist because it undermines the universal status of the NPT as well as carrying further risks of proliferation.⁴³ Its implementation should be addressed taking the views of all the party states during the NPT review conference. Concerned states should be provided with better incentives. Regrettably, this opportunity was lost during the 2010 review conference and the withdrawal provision remains unaltered.⁴⁴

⁴³ Mohamed ElBaradei noted in the discussion of Resolution 1887 at the UNSC that ‘[a] growing number of States had mastered uranium enrichment or plutonium reprocessing and any one of them could develop nuclear weapons quickly if they decided to withdraw from the Nuclear Non-Proliferation Treaty’.

⁴⁴ ‘118. The Conference reaffirms that each party shall in exercising its national sovereignty have the right to withdraw from the Treaty if it decides that extraordinary events related to the subject matter of the Treaty have jeopardized its supreme interests. The Conference also reaffirms that pursuant to article X notice of such withdrawal shall be given to all other parties to the Treaty and to the United Nations

Mitigating security competition. Cooperation is important in mitigating security competition. Cooperation should be based on shared values and normative grounds. Booth and Wheeler suggest that long-term cooperation is based on ‘identity and egoism’.⁴⁵ Competition among states always reduces the extent of cooperation. At the global level, the US, Russia and China and at a regional level, India and Pakistan, have to change their behaviour. ‘[The i]mmediate reduction of US and Russian arsenals to the same levels as other nuclear powers (a few hundred) would maintain their deterrence, reduce the possibility of nuclear winter and encourage the rest of the world to continue to work toward the goal of elimination.’⁴⁶ US and Russian behaviour will ultimately modify Chinese and Indian behaviour as well. China follows the US and India follows China. Pakistan as a result matches its position with India. Israel’s nuclear modernization has compelled Iran to fire ballistic missiles, which is furthering the arms race in the Middle East. Thus, the major powers have to take a step forward to reduce this security competition in the most sensitive regions of the world. Booth and Wheeler rightly suggest that cooperation requires a moral basis and that without moral grounds normal cooperation is hardly sustained.⁴⁷ If norms do not limit competition then cooperation fails and uncertainty prevails. Arms competition between states such as the US and China creates a new age of uncertainty. The main Chinese ambition is economic rather than military power.⁴⁸ Mearsheimer correctly notes that ‘great powers always develop new technology winning advantages’ to ensure that their adversaries and

Security Council three months in advance, and that such notice shall include a statement of the extraordinary events the State party regards as having jeopardized its supreme interests.’

⁴⁵ Ken Booth and Nicholas J. Wheeler, *The Security Dilemma*, p.131.

⁴⁶ Alan Robock and Owen Brian Toon, ‘Local Nuclear War’, *Scientific American* (January 2010).

⁴⁷ Booth and Wheeler, *The Security Dilemma*, p.132.

⁴⁸ In the debate over UNSCR 1887, the President of China stated: ‘China had always supported the complete elimination of nuclear weapons. It only held them for defence, having pledge[d] no first use and no use against non-nuclear-weapons States. China would continue to play its role in upholding international non-proliferation and disarmament regimes.’

opponents are unable to beat them.⁴⁹ Such advantages tend to be short-term gains, however, and are inherently destabilizing. Washington cannot reject engagement and maintain its military superiority over China without accelerating an arms race. The US BMD has increased mistrust in both Beijing and Moscow. The real aim should 'peace in security', as President Obama declared in November 2009, not the 'balance of fear' that prevailed during the Cold War, which he called 'a time of peace without security'.

Regulating Non-NPT states' behaviour – preventing risk and crisis spreading from the South Asian region

The challenge is to create some space for the three non-NPT NWS within the non-proliferation regime so that they are under the same obligation as NPT NWS, as outlined under article VI of the NPT. There is a need to deal with the reality of the nuclear challenge posed by these three states without inflicting permanent damage on collective non-proliferation objectives. The following important steps would help regulate the behaviour of non-NPT states.

General and Complete Disarmament. Nuclear non-proliferation and disarmament, measures towards NWFZs, the implementation of the CTBT and a FMCT; issues relating to chemical and biological weapons; the prevention of an arms race in outer space (PAROS);⁵⁰ issues relating to conventional weapons; regional security issues; disarmament machinery; and peaceful uses of nuclear energy are all urgent matters to be addressed. PAROS is required to prevent NWS relying on superiority in outer space

⁴⁹ Quoted in Booth and Wheeler, *The Security Dilemma*, p.278.

⁵⁰ All the states voted in favour of negotiating a treaty on PAROS, the US voted 'No' and Israel abstained. Russia and China submitted a draft treaty to the CD in 2008 for the prohibition of weapons in outer space but the US dismissed the proposal.

as the prerequisite of modern warfare and thus fostering a new and avoidable arms race. The Indian participation in an arms race in outer space, and its enhancement of its national missile defence system and its command and control system by means of help from Israel, the US, Russia and Europe risks undermining Pakistan's deterrent capability. Pakistan has offered an agreement on keeping South Asia free from an ABM system and a bilateral agreement on the non-use of outer space for military purposes. However, India has not shown any positive response to these proposals.⁵¹

The UN Special Session on Disarmament (SSOD-I (1978))⁵² could help in reinvigorating an interest in disarmament, i.e., in addressing the concerns of the Conference on Disarmament (CD).⁵³ Such a broad agenda would create opportunities for addressing such interdependent issues as nuclear and technically advanced conventional weapons, nuclear weapons and nuclear energy and regional political conflicts. SSOD-I negotiations should be addressed to halt the continuing reliance on nuclear weapons. No progress on SSOD-I, a disappointing development in itself, would imperil the future of the consensus-based CD. Therefore, the NWS need to display much greater unity and 'political will' to enable the CD to address the concerns highlighted above. President Obama's words are a good start: but he needs to be able to find support among the NWS.

Indeed, with good will, it may be possible to make progress on a FMCT and a CTBT. The CTBT was signed by 171 states and ratified by 110 states as of April 2004. The US and China have signed but not ratified the treaty. The treaty was 'dead marked' by the G. W. Bush administration because it was thought to harm US interests such as the NMD. Progress on the FMCT within the Conference on Disarmament had been

⁵¹ Rizwana Abbasi, 'India in Outer Space', *The News* (13 February 2008).

⁵² SSOD-I document agrees on the prohibition of production of fissile material for weapons usage, the elimination of nuclear weapons, a NWFZ in the Middle East, prevention of arms race in outer space, the reduction in conventional weapons and a review of disarmament programme.

⁵³ The Conference on Disarmament (CD) is the world's single multilateral disarmament forum.

stalled for a long time. Nevertheless, current realities and the increasing proliferation threat requires the FMCT to further tighten controls on international fissile material available for weapons use.⁵⁴ As the discussion which took place in September 2009 at the UNSC makes clear,⁵⁵ doubts remain as to whether it is possible to move on every front simultaneously towards achieving comprehensive nuclear disarmament. Should the aim be, as the US and Britain contend, the ‘eventual abolition of nuclear weapons’, or as the French claim, a vaguer aim of seeking ‘to create the conditions for a world without nuclear weapons’? Clearly the task is complex, involving nuclear non-proliferation and disarmament machinery; measures towards creating NWFZs; the implementation of both a CTBT and a FMCT; issues relating to chemical and biological weapons, arms in outer space and conventional weapons; regional security issues; and safeguards to ensure the peaceful uses of nuclear energy. Without having both a CTBT and a FMCT in place, the UN Special Session on Disarmament is unlikely to achieve its objective of reinvigorating the issue of global nuclear disarmament. Therefore, nuclear weapons states need to display much greater unity and political will to achieve a verifiable FMCT that will prevent the spread of nuclear materials and strengthen the proportion of weapons’ useable material which is maintained under international safeguards, reinforce states’ nuclear export controls, and reduce the crisis of trust concerning the alleged ineffectiveness of the NPT. The threat of terrorists gaining access to such nuclear material would be greatly reduced if existing and future production was to be monitored by a verifiable mechanism. A new consensus is

⁵⁴ Barnaby, Rogers and Mendelsohn, ‘Constructive Approaches to Limiting the Spread of Nuclear Weapons’, p.12.

⁵⁵ Kaegan McGrath and Vasileios Savvidis, ‘UNSC Resolution 1887: Packaging Nonproliferation and Disarmament at the United Nations’, (February 1, 2009), at: http://www.nti.org/e_research/e3_unsc.html

required for a revival of commitment to a collective security architecture based on equity, balance, restraint and cooperation among states.

This study argues that unless the status of non-NPT NWS is recognized so as to bring them into the disarmament negotiation framework there can be no significant agreement. Any agreement on disarmament between the P5 states alone leaves serious questions about the nuclear weapons of non-NPT states. There is a need to address the security issues of all states collectively through cooperation and dialogue. The NWS cannot achieve their security at the expense of the insecurity of others. Commitments towards general and complete disarmament should be based on transparent, verifiable and irreversible measures:

Only the abolition of nuclear weapons will prevent a potential nightmare. Immediate reduction of US and Russian arsenals to the same levels as other nuclear powers (a few hundred) would maintain their deterrence, reduce the possibility of a nuclear winter and encourage the rest of the world to continue to work toward the goal of elimination.⁵⁶

Need to Address the Causes of Reluctance to join the NPT: To understand the behaviour of non-NPT states, there is a need to address the causes of their reluctance to join the NPT and their subsequent acquisition of nuclear weapons. The above debate suggests powerfully that it is their security concerns which are the main reasons – key issues such as Kashmir in South Asia and Palestine in the Middle East have led states to break with NPT norms. The failure to move forward towards a peaceful solution of these issues has created great mistrust and destabilized these two regions. According to Olli Heinonen, the resolution of the Kashmir problem would remove the need for nuclear weapons from South Asia.⁵⁷ Hans Blix, also in an interview for this study, made it clear that resolution of the Kashmir dispute was essential for winning the non-proliferation argument in South Asia. For Blix, improved bilateral trading relationships

⁵⁶ Robock and Toon, 'Local Nuclear War', p.81.

⁵⁷ Olli Heinonen, Interviews (July 2009).

and political détente remain of central importance in this region if nuclear disarmament is to occur.⁵⁸ General Ehsan also argued that the resolution of the issue of Kashmir would help in the solution to other problems, such as the water issue and the Siachen Glacier issue and would prevent the need of nuclear weapons and the potential for nuclear war between India and Pakistan.⁵⁹ The contention in this study is that although the resolution of the issue of Kashmir – itself a difficult task and unlikely to be a fast process – would help to prevent war in the region and might reduce the need for Pakistan to keep a nuclear arsenal, it would not have the same effect for India. India has a great rival, China, on its border and seeks great power status for itself, including a permanent seat on the UNSC. In addition to this, Indian involvement in the border region of Afghanistan and Pakistan and Central Asia indicates a broader agenda in the region, which is potentially detrimental to Pakistan's interests. It is most unlikely that Pakistan would denuclearize while India retains its nuclear weapons, and there is no prospect at all of India surrendering its nuclear weapons given its perception of a China–Pakistan alliance against its interests, whatever the rhetoric it deploys against the five NWS. Regime theory provides the best solution to resolve all the problems by building cooperation between these states and bringing them into non-proliferation framework to prevent risks in future.

Israel an undeclared NWS Israel is in a different situation to India and Pakistan because it enjoys US protection in a similar way that the US has provided security assurances to Japan and South Korea. Therefore, Israel should be annexed to the US as a party to the NPT. Israel's possession of nuclear weapons has led Iran to rethink its nuclear option. A nuclearized Iran will destroy any hopes for denuclearization of the Middle East. Iran has

⁵⁸ Rizwana Abbasi, 'Nuclear Non-Proliferation - New Paradigms', *University of Leicester*, <http://www.le.ac.uk/po/info/departmentalnews.html>

⁵⁹ Gen. Ehsan, Interview (2009).

already acquired a ballistic missile capability of reaching Israel, Syria, Saudi Arabia, Pakistan and Turkey. Such ambitions will motivate other states to follow suit. George Perkovich argues correctly that since the 1960s the US has not pursued the strategy of convincing Israel to give up its nuclear weapons capability. This means that the US maintains a policy of double standards, allowing its democratic allies to retain their nuclear weapons while seeking to prevent the spread of nuclear weapons to other states.⁶⁰

India and Pakistan must be declared NWS India and Pakistan are independent, sovereign NWS and must be incorporated within the NPT, though the 2010 review conference regrettably did not consider this option, arguing instead that their accession should be as NNWS.⁶¹ This study suggests ways in which this might be done. President Obama declared during his speech on 13 April 2010 that he had trust in both India and Pakistan. The US focus is mainly on preventing states like Iran from gaining nuclear weapons and considers that it is too late to persuade India and Pakistan to give up their nuclear arsenals.⁶² Instead of calling India and Pakistan ‘special friends’, there should be a policy to align them with the NPT and CTBT and become full parties to the regional and global disarmament process. If the NPT is not open to amendment then the case of these two states should be addressed through a Protocol, which could be attached to the NPT, which recognizes India and Pakistan as NWS. The most plausible solution, which is suggested by Avner Cohen, is to give them ‘associate membership’

⁶⁰ Perkovich, ‘Democratic Bomb: Failed Strategy’, p.2.

⁶¹ ‘107. The Conference urges India and Pakistan to accede to the Treaty on the Non-Proliferation of Nuclear Weapons as non-nuclear-weapon States and to place all their nuclear facilities under comprehensive IAEA safeguards promptly and without conditions. The Conference further urges both States to strengthen their non-proliferation export control measures over technologies, material and equipment that can be used for the production of nuclear weapons and their delivery systems.’

⁶² Anwar Iqbal, ‘US not to mark out Pakistan, India for NPT’, *Dawn* (22 April 2010).

under a 'separate agreement or protocol'.⁶³ Cohen has rightly predicted that such a protocol would allow them to 'retain their nuclear programs', but might serve to 'restrain further developments'.⁶⁴ He further suggests that such a 'protocol could require cooperation with international nuclear export controls, prohibit the explosive testing of nuclear devices, and call for the phased elimination of fissile material production'.⁶⁵

Durrani strongly maintains that there is no other solution at the present time except to bring India and Pakistan to sign an annex which can be attached to the NPT.⁶⁶ Indeed, the benefit would be that both Pakistan and India would then have to abide by the obligations of the NPT, i.e. work to prevent nuclear proliferation – not to provide nuclear weapons technology to anyone else and also to follow the Article VI obligations on disarmament. Since at present these countries do not have any legal non-proliferation obligations, such a protocol would strengthen the international non-proliferation framework rather than weaken it. Perkovich argues that the three states (Israel, India and Pakistan) should be required to accept the obligation to prevent proliferation, to secure their nuclear weapons and material, to reduce the role of nuclear weapons in their security policies, and to eschew nuclear testing.⁶⁷ Perkovich further suggests that if these states fail to 'comply with their obligations, they would be subject to the same sorts of sanctions and political pressures [according to non-proliferation rules]'.⁶⁸ Perkovich rightly states that these states 'should not be rewarded with trade in nuclear

⁶³ Avner Cohen and Thomas Graham Jr., 'An NPT for non-members', *Bulletin of the Atomic Scientists*, 60/3 (May/June 2004).

⁶⁴ Ibid.

⁶⁵ Ibid.

⁶⁶ Asif Durrani, Interview (July 2009).

⁶⁷ Perkovich, 'Strengthening non-proliferation rules and norms', p.23.

⁶⁸ Ibid.

power reactors but should receive cooperation to strengthen nuclear material security and reactor safety'.⁶⁹

George W. Bush's Administration propounded a 'Democratic Peace Theory' which has been called a 'Democratic Bomb strategy'.⁷⁰ The theory postulated that mature democracies do not fight wars, with the implication that such states can safely be allowed to join the nuclear club. In contrast, states that are not acceptably democratic become foes and can never be trusted with possession of nuclear weapons. This theory raised more questions than it resolved. Booth and Wheeler argue that the theory gave India greater leverage within the international community to be regarded as a responsible nuclear weapons state.⁷¹ The argument presented in this study is that, on the contrary, there can be no concept of 'good guys' and 'bad guys' in the holding of nuclear technology. Today's allies may become tomorrow's rivals. The principal ally of the US in the Middle East and the only country in the region with a consistent democratic record, Israel, was prepared to consider the gravest attempt at state-sponsored nuclear proliferation when Defence Minister Shimon Peres appeared willing to provide nuclear warheads to apartheid South Africa in 1975. As Chris McGreal commented in the *Guardian*, based on the researches of Sasha Polakow-Suransky⁷² the evidence of a secret defence treaty between Israel and South Africa 'undermine[s] Israel's attempts to suggest that, if it has nuclear weapons, it is a "responsible" power that would not misuse them, whereas countries such as Iran cannot be trusted'. Avner

⁶⁹ Ibid., p. 42.

⁷⁰ Perkovich, 'Democratic Bomb: Failed Strategy',

⁷¹ Booth and Wheeler, *The Security Dilemma*, p.133.

⁷² Polakow-Suransky, *The Unspoken Alliance: Israel's Secret Relationship with Apartheid South Africa* (New York: Pantheon, 2010).

Cohen disagrees, arguing that Israel ‘did behave as a responsible nuclear state’, since the proposed nuclear deal never took place in 1975 or thereafter.⁷³

Reviewing Export Control Regimes and aligning them within the NPT

After reviewing the policies and regulations dealing with the NPT treaty regime, the way forward is to view export control regimes as a part of the NPT treaty regime. The study presents recommendations below to strengthen and incorporate the multilateral regimes into the non-proliferation treaty to reinforce the efforts towards the non-proliferation of WMD.

First, there is need to clearly define and strategise a *broad formula* for export control policies that can meet current and future challenges. This document would be linked with export control regimes and non-proliferation regimes, recognising the security interests of all member states. This document would recognize the new realities facing the world today such as changes in the threat environment, the economic slowdown, trends towards globalization, the information revolution and the rapidly changing nature of technologies. There should be comprehensive strategies and rules for all states

⁷³See <http://www.haaretz.com/news/diplomacy-defense/israel-denies-offering-nuclear-weapons-to-apartheid-south-africa-1.291800>. However, the *Guardian* published transcripts of the agreement between the two states based on declassified South African documents. Chris McGreal, ‘Revealed: how Israel offered to sell South Africa nuclear weapons’, *Guardian* (24 May 2010), with image of the agreement between Shimon Peres and P. W. Botha (3 April 1975). <http://www.guardian.co.uk/world/2010/may/23/israel-south-africa-nuclear-weapons>. Sasha Polakow-Suransky, *The Unspoken Alliance: Israel’s secret alliance with apartheid South Africa*, reviewed by Chris McGreal at <http://writingrights.org/2010/05/24/sasha-polakow-suransky-s-book-on-israel-and-apartheid-south-africa-reviewed-by-chris-mcgreal-and-benjamin-pogrand-and-a-haaretz-report/> Polakow-Suransky presents evidence of the enthusiasm with which Israeli leaders behaved. He says letters between military leaders were ‘characterized by a remarkable sense of familiarity and friendship’. The sense of a ‘shared predicament had become so strong that Israeli and South African generals saw fighting the African National Congress and the Palestine Liberation Organization as a shared mission’. For twenty years South Africa became Israel’s largest purchaser of conventional armaments, accounting for 35 per cent of military exports. Avner Cohen contends that Israel ‘did behave as a responsible nuclear state’, since the proposed nuclear deal never took place in 1975 or thereafter. <http://www.guardian.co.uk/world/julian-borger-global-security-blog/2010/may/24/israel-nuclear-southafrica>

on the basis of equality. The WA are only focused on Iran, Iraq, North Korea and Libya. There is also a need to address all nuclear states such as Russia, China and the US itself. The US sometimes considers China as a partner and sometimes as a rival. European states have a vast market for high technology and goods for China. Developing states are totally reliant on trade for their economic survival. There is need for a cooperative and equality-based formula to address such developing states on the same lines as developed in order to strengthen export controls within their territories.

Second, dual-use technologies are critical. There is a need to address sensitive technologies more clearly, and to consider their registration carefully. In the case of dual-use technology, all states should be treated equally. There is need for greater transparency in nuclear export controls. Export control measures undertaken through the ZC and the NSG should be open and transparent. These measures should be promoted within a framework of dialogue and cooperation among those states which participate in negotiations with non-party states. The NSG countries pursue the ‘no undercutting’ principle while Pakistan and India are expected to follow the NSG guidelines, having not been made beneficiaries of the ‘no undercutting’ principle. The question arises as to why these non-NPT states should be expected to put themselves at a commercial disadvantage in the trade of dual-use technologies? Also with no information regarding denials, as NSG states share denial notices only among themselves, states like Pakistan, even if they wanted to, cannot take informed decisions regarding the export of dual-use technology. The implementation of NSG export controls requires better sharing of best practice at the international level.

Third, all nations and firms within states which are members of the NPT regime should be liable to *identify the end-users* before selling any part of dual-use technologies (military or civilian) in order to check their usage. Mainly firms only go for making profit and disregard the end usage of the product as was true of European firms in the case of Pakistan.

Fifth, there is need to be assured that the main nuclear suppliers endorse the rules initiated in the export control regime and that they are fully committed to the prevention of proliferation. There should be agreements to prevent access to any sensitive material by potential proliferators. All members should comply with the guidelines and share information to prevent such proliferation. To enhance the capability to administer and enforce export controls is to focus international monitoring and enforcement efforts on major chokepoints in the flow of global commerce. Most of the dual-use items are tangible and could be controlled easily if they were listed by the export control regimes, such as the NSG or ZC. However it is very difficult but equally important to control intangible technological transfer. Intangible technology is already addressed under the WA but there is a need to control information transfer by telephone, fax, email and so on.

Sixth, It may be difficult for the governments to keep a check on all items when economies and trade are so globalised despite the issuing of control lists to exporters and industries. All member states should have a programme for building cooperation and dialogue with industries, MNCs and other companies, to strengthen export controls as suggested by regime theory and the neo-liberal school. If exporters have any

confusion with the ‘catch-all’ clause they can seek assistance through such private channels which would also serve to strengthen government–industrial relationships.

Finally, and most importantly, the export control process needs to be linked to the NPT. Instead of having four multilateral regimes, there should be one comprehensive regime – merging the four into one, linking it with the non-proliferation regime – to develop more effective export controls world-wide. The current realities – the growing terrorist threat and rapid economic change – require a more formal, responsive and powerful institution, not informal arrangements. Michael Becks also suggests that there is a need to merge the existing export control regimes in an institutionalized manner.⁷⁴ The multilateral export control regimes require a redefinition of their rules since dual use technologies have increased their share of exports in the most dynamic economies. There is no doubt that the control of dual use technologies places industries and businesses at a disadvantage in an export control regime compliant state. There is a competitive market worldwide which seeks to evade control. India, China and Israel are great suppliers of dual use technologies and have built up their markets with capital investment and collaborative development of certain technologies.⁷⁵

The US, the European Union and Japan must table the lead role in the task of confronting the trade in dual use technology and without global cooperation and strengthened institutions the task will not be won. The process has to be on a ‘case-by-case’ basis at the global level. The NPT review conference in May 2010 had the opportunity to go through developments in export controls over the previous years and in particular to address their standard and implementation by member states and also to

⁷⁴ Michael Becks, et al., ‘Strengthening multilateral export control’, p. 24. Also see Danish non-paper, ‘Working Towards a New Export Control System’, US department of Commerce, Bureau of export administration, 28-30 Sept. 1999. Washington D.C: US department of Commerce.

⁷⁵ Seema Gahlaut, in Daniel Joyner (ed.), *Multilateral Export Control Regime: Operations, Successes, Failure and the Challenges Ahead* (Hampshire: Ashgate, 2006), pp. 16-17.

address the issue of non-member states. It is as yet unclear that it has lived up to the challenge that it faced.

Re-enforcing the IAEA Safeguards – focusing on the South Asian states

The Oxford Research Group⁷⁶ suggests strengthening of IAEA safeguards to promote nuclear non-proliferation. The IAEA needs to introduce accurate and fast reading equipment which helps inspection teams to make rapid and accurate measurement in the field, develop new integrated facilities to enable advanced safeguards to minimize the arising proliferation threats and further develop a strong information management system to deal with large amounts of disparate data and knowledge.

Thus, there is an immediate need for enhanced skills to detect undeclared nuclear facilities, the safeguarding of complex declared fuel cycle facilities and the introduction of new safeguards. Furthermore, better surveillance approaches are required, including portal area radiation monitoring; integration of access denial and transparency elements of safeguards, as well as the more traditional concerns such as the detection of movement of suspect people and equipment which will help prevent re-occurrence of any A. Q. Khan-type episode.

Dual-use technology is an important element of IAEA safeguards inspection. There is a requirement to distinguish between information to the IAEA to be given on regular basis. Dual-use items which are not mentioned on trigger lists do not qualify for regular reporting to the IAEA due to their apparent lack of significance. There is no government to government assurance agreement in this regard. The recipient country is not responsible for dual-use items but limits its responsibility to statements that export

⁷⁶ Barnaby et al., 'Constructive Approaches to Limiting the Spread of Nuclear Weapons: Some Proposals for Government Action' p.13.

of dual-use items from their country requires a licence. The IAEA will also not be regularly able to receive confirmation of the arrival of DU technology in the recipient country nor identify what the usage of the DU item is. When the IAEA has concerns, member states should provide all the necessary information on the exported technology and its expected usage in the recipient countries.

The concern is that around some twenty NNWS with known nuclear activities – such as Argentina, Brazil and Iran – have no AP in force. All are known to have uranium enrichment activities. The NSG should immediately adopt a rule that no nuclear material, equipment or know-how will be transferred to a country having conversion, enrichment or reprocessing activities unless it has an AP in force and unless its nuclear facilities are covered by an INFCIRC/66-type safeguards Agreement. Member States should be liable to provide such information on a regular basis under Article VIII.A of the IAEA Statute.

All Member States should be required to provide to the Agency information regarding imports of specified equipment and non-nuclear material (listed in Annex II of the AP), without any request issued from the Agency. The major focus should be on states that have been in non-compliance and those which are withdrawing or threatening to withdraw from the NPT. The major safeguards violations that have occurred since 1997 have involved states without an AP. Libya and Iran are obvious examples.

The further important task is that the IAEA should be given authority to receive information on export denials as well as approvals. There is a strong case for requiring export denials as well as export approvals to be reported to the IAEA. Information on unsuccessful procurement efforts could be important for alerting the IAEA to the possible interest of a state in pursuing clandestine nuclear development.

In some cases, states with sensitive facilities, especially centrifuge enrichment plants, may present a major challenge to IAEA safeguards. If a state has enrichment technology and is able to replicate centrifuge installations, it will be very difficult to detect any undeclared enrichment facilities, particularly as the ‘footprint’ for centrifuge facilities is relatively small. The most effective solution to this problem is to seek international agreement to limit the number of states having these capabilities while encouraging compliance through strong trade and economic collaboration under identified rules so there should be no risk of states breaking agreements.

Summing up, the Additional Protocol is an essential element in strengthening the IAEA’s capacity to detect undeclared nuclear activities. The IAEA has emphasised that without an AP its ability to draw conclusions on the absence of undeclared nuclear material and activities is limited. All states must do more towards achieving a universalization of the AP. It is high time all nuclear suppliers made the AP a condition for supply – there is no justification for continuing nuclear supply under insufficient safeguards. Both India and Pakistan should be a made a part of these developments.

An old debate in a new context – Regime Theory, neoliberals and constructivists.

Over the last decade the non-proliferation regime and NPT within the regime have had some important successes which cannot be ignored. In the nearly forty years since the NPT’s inception, very few states have violated the Treaty. Ultimately, regime theory and neo-liberal institutionalism clearly warrants consideration as a valid interpretation, given the relatively small number of nuclear states in the world today. It is clear that, as neo-liberals such as Robert Keohane argue, mutual self-interest can in fact lead to cooperation. Keeping the neoliberals’ assumptions in view, it can be argued

that the inception of the NPT was in the interest of most states, not just the great powers, and as such, cooperation became possible.⁷⁷ The Treaty's indefinite extension in 1995 and the renunciation of nuclear weapons by many states indicate that the regime has worked in many respects and that cooperation among states has developed. President Kennedy's prediction in 1963 that there would be 15 or 20 nuclear states by 1980⁷⁸ has still not come to pass. Most countries, as mentioned above, have withdrawn their nuclear installations and joined the NPT. That is why Robert Keohane and Lisa Martin believe that institutions facilitate data exchange, make agreements more trustworthy and help establish treaties with inspection guidelines to prevent non-compliance.⁷⁹

Though it can be argued that cooperation has been imperfect and some states have reconsidered their interests, the arguments of the neo-liberal school gives the world leaders room to manoeuvre and strengthen existing cooperation in order to achieve the NPT's stated goals. Thus regime theory has a complete relevance that institutions play an important role in building cooperation and regulating states' behaviour. It is strongly argued that without such institutions, cooperation among states is not possible and without international cooperation the world is left in a self-help situation. The arguments of regime theory and the neo-liberal school help us to understand how the behaviour of non-party states can be changed through institutional cooperation and the strengthening of the NPT. The NPT norms towards the non-use of nuclear weapons have been robust but they have been much weaker in controlling the proliferation of nuclear weapons. The NPT itself, as the central pillar of the non-

⁷⁷ Francois de Soete, 'The Nuclear Non-Proliferation Regime: Trying to Maintain the Status Quo', <http://www.cda-cdai.ca/symposia/2003/soete.htm>

⁷⁸ Garold Larson, Deputy Permanent Representative of the United States to the Conference on Disarmament (Geneva, 1 July 2008): <http://geneva.usmission.gov/CD/updates/0701LarsonAtCD.html>

⁷⁹ Soete, 'The Nuclear Non-Proliferation Regime: Trying to Maintain the Status Quo'.

proliferation regime, can strengthen the role of the IAEA and multilateral export control regimes, as suggested above.

Conclusion: The IAEA is effectively promoting the NPT's non-proliferation agenda. However, there is a need to give it an autonomous role free from the influence of the most powerful states with secure budgetary funding. The multilateral export control regimes should be merged into one institution and be attached to the NPT. This study concludes with regime theory and the neo-liberal viewpoint that institutions are helpful in building cooperation among states and regulating their behaviour. Without institutions there is no cooperation and without cooperation there are no permanent alliances in International Relations. Non-proliferation and disarmament can only be promoted through powerful institutions and cooperation among states such as in the initiatives proposed by the Obama administration.

However, the nuclear non-proliferation regime can only secure the permanent co-operation of a state such as Pakistan if the existing crisis of trust is removed and the tendency towards the discriminatory treatment of non-NPT states is overcome by a measured revision of the framework of the treaty, if necessary by the addition of a new annex incorporating those nuclear weapons states which remain at present outside the NPT, strengthening the role of the IAEA and incorporating the multilateral export control regimes to the NPT. Pakistan should be a part of that process.

Conclusion

Pakistan's Nuclear Behaviour: Regime Theory and the Non-proliferation Regime

The primary goal of this study has been understand Pakistan's nuclear behaviour and the motivation behind its development of nuclear weapons. The important debates and decisions affecting Pakistan's nuclear behaviour from the mid-1950s until the NPT Review Conference of May 2010 provide answers to the three questions formulated at the beginning of the study:

1. To what extent has Pakistan's nuclear behaviour been influenced by the global discourse of the non-proliferation regime?
2. Why is it that international institutions, such as the NPT within the non-proliferation regime, failed to constrain Pakistan's nuclear behaviour?
3. How can Pakistan's behaviour be better regulated in the future through international institutions/regimes and cooperation?

The first task in this study was to explore these questions in a preliminary way, taking from regime theory the ideas that cooperation is possible in an anarchic system of states and that international institutions or regimes affect states' behaviour. Guidelines were extracted from the three models approach (realism, neo-liberalism and constructivism) to plot the roles of institutions in the security realm. The contributions of these schools to an understanding of the development and role of institutions and their effect on the behaviour of Pakistan in the past and its likely behaviour in the future were compared and contrasted.

The second task was to show the relevance of regime theory to an understanding of the operation of the nuclear non-proliferation regime. Within that regime, the NPT is the most powerful element and the one which provides the best focus – though not the only one – for studying the case of Pakistan.

The third task was to relate Pakistan's case to this framework. Within this debate, the study provided an in-depth account of the motives and dynamics of Pakistan's nuclear policy (including its decision not to join the NPT regime) and the security paradigms which led it to build a nuclear bomb. The central interest in this study is the extent to which Pakistan's security considerations and its nuclear behaviour were factored into the global non-proliferation regime; and why that regime failed to constrain Pakistan's nuclear behaviour so that it developed nuclear weapons and then proliferated them to states which are a matter of concern to the international community.

Pakistan's Behaviour: the three models approach

Pakistan's nuclear behaviour cannot be explained and understood via the insights of any single model. A three-models approach (within regime theory) was decided on as the appropriate way forward to understand Pakistan's nuclear motivation and its international ramifications. Pakistan offers crucial lessons. It is not a hard state as is argued by many¹ but a state which always respected global norms and which seeks international institutional cooperation. When its policies are correctly perceived, Pakistan cannot be viewed as an aggressive or isolated state. The literature in this study identified Pakistan's nuclear behaviour as motivated by two main factors. Firstly, it is

¹ Professor Anatol Lieven, informal discussion (London, March 2010). He regards Pakistan as a hard country in his forthcoming book *Pakistan: A Hard Country*. Hans Blix, Interview (2009). He said, it is hard to deal with difficult states such as Pakistan.

India-centric (Indian nuclear behaviour had a direct bearing on Pakistan's and set it on the nuclear route); and secondly, it is influenced by the non-proliferation regime which in the long term failed to secure Pakistan's cooperation.

This study demonstrates that from the outset Pakistan sought to be aligned with the global community, particularly the US, sometimes on bilateral grounds and on other occasions as a part of trilateral or multilateral alliances. It always respected global non-proliferation norms in all the international forums, as discussed in detail in Chapter one Part III and in chapter two. Regime theory and the neo-liberal model provided the most satisfactory interpretation of Pakistan's behaviour in the period from the early 1950s to the mid-1960s, when it was a part of global alliances such as SEATO and CENTO. This study shows in chapter two that Pakistan refrained from nuclear weapons developments and relied instead on international alliances. This phase proves that cooperation between states, including states in South Asia, was possible and that the behaviour of states could be influenced through alliances and cooperation.

A second side of Pakistan's behaviour, which became evident after 1965, is more adequately explained by the realist model: this is Pakistan's inherited strategic culture, the threat to its security arising from its immediate neighbour, India, and the actions of India towards the acquisition of a nuclear capability which appear the main motivation behind Pakistan's own drive towards acquiring a nuclear capability in response. Pakistan's defeat in the 1965 and 1971 wars, when it received no help from its allies, led it to rely less on alliance systems and to turn instead to self-help, financed by loans from Muslim-majority countries. Pakistan was left no choice by the Indian PNE in 1974 ('the Pokhran test was a bomb, I can tell you now... An explosion is an

explosion...’, it was later admitted),² which challenged the strategic equation in the South Asian region. Pakistan’s nuclear programme appears entirely security driven and India-reactive. The decision was a decision of state in which all the political and scientific elites and other important personnel played a joint part.

The NPT came into force on 5 March 1970, only four years before the Indian PNE, and enforcement mechanisms did not exist in more than embryonic form in the early years of the non-proliferation regime. Pakistan argued in favour of establishing a nuclear free zone in South Asia, which India refused to contemplate. India refused also to join the NPT as a NNWS; because of this second refusal, Pakistan itself could not join the NPT as a NNWS. The UN and the non-proliferation regime failed in 1974 to prevent the Indian PNE and this failure contributed shaped Pakistan’s nuclear behaviour. The major powers had their own commercial interests with India and did not pay sufficient heed to developments there, although India’s policy was one of deception: in particular it broke its undertakings given to Prime Minister Trudeau of Canada in 1971. The Indian nuclear explosion confirmed the major powers’ double standards, their wish to trade with India and the loopholes in the non-proliferation regime. The realist model helps in understanding the security needs of Pakistan and the need for it to follow the principle of self-help and seek to build nuclear weapons in the semi-anarchic region of South Asia. Realist arguments suggest that powerful states influence the role of international institutions and pursue their relative gains. These institutions, on the other hand, failed to provide Pakistan with the security guarantee for which it had asked.

In the years 1979–89, US non-proliferation policy took a back seat in South and Central Asia as the American priority became the removal of Soviet troops from

² Raj Ramanna, Former Director of India's Nuclear Programme, 10 October 1997 (speaking to the Press Trust of India). Quoted at <http://nuclearweaponarchive.org/India/IndiaSmiling.html>.

Afghanistan. Pakistan was in effect allowed to explore the non-proliferation loopholes and acquire the required material and parts from the international market. It is important to note that during this phase, there remained loopholes in the non-proliferation system and the NPT, security and export controls at the global level were lax and Pakistan took full advantage of these shortcomings. Pakistan crossed the nuclear threshold in 1987 while in order to secure US interests in Afghanistan both Presidents Reagan and Bush certified between 1987 and 1989 that Pakistan did not possess a nuclear capability. This is the period when realist arguments are exemplified in the conduct of both the US and Pakistan with regard to non-proliferation rules: the reasons were different in each case, but in both state interests took priority over international co-operation against the spread of nuclear weapons. The US only re-imposed anti-proliferation legislation on Pakistan after the Soviet withdrawal from Afghanistan, when it was publicly admitted that Pakistan had crossed its Rubicon and acquired a nuclear capability. The economic sanctions imposed on Pakistan during the 1990s could not divert Pakistan from its security-oriented nuclear programme. The ballistic missile arms race in South Asia led to the 1998 nuclear tests challenging the international efforts to prevent the proliferation of nuclear weapons. India's unconditional hostility and the US discriminatory policy towards Pakistan during the 1990s changed Pakistan's 'cautious and restrained nuclear policy' into one of weaponization.

In the case of nuclear weapons, the assumption of many – though not the nuclear 'optimists' – is that more may be worse, that is, that nuclear proliferation increases the risk of an unintended outbreak of nuclear warfare. While in general the arguments presented here subscribe to this viewpoint, the reality in the case of South Asia is that the acquisition of nuclear weapons by the two powers has had a stabilizing effect on a volatile region. India and Pakistan fought three major wars before they gained a nuclear

deterrence capability. Nuclear deterrence has in fact prevented both a full conventional war and a nuclear war – but only because the fear of widespread destruction and annihilation has motivated US mediation. US mediation strengthened the taboo against the use of nuclear weapons which shows the relevance of the constructivists’ arguments. For example, as discussed in chapter three, two major crises (Brasstacks in 1977–8 and the Kashmir crisis in 1990–1), as well as the Kargil crisis in 1999 and the long period of armed confrontation following the attack on the Lok Sabha in December 2001 have been resolved through US mediation. The US might not have intervened had not both states been nuclear armed. Equally, US mediation might not have been accepted by the parties – principally by India, which rejects third party mediation in most cases – had not the risks of nuclear conflict been very great.³ Therefore, the viewpoint in this study subscribes to Hagerty’s argument that, at least in the South Asian experience, ‘the logic of nuclear deterrence has been closer to the mark than the logic of non-proliferation’.⁴

Why the NPT failed in the case of Pakistan and why Pakistan continues to remain outside the treaty

The declared nuclear status of India and Pakistan had a substantive impact on the non-proliferation regime and global nuclear politics. The nuclear order based on the NPT began to crack and the legal and normative foundation of the NPT was substantially weakened as a result of the South Asian nuclear tests of May 1998. This was particularly ironic in the case of Pakistan, which had taken an ethical approach

³The depth of US concern can be gauged by the release on 29 May 2002 of a Defense Intelligence Agency (DIA) report assessing casualties in a full nuclear exchange between the two sides at 8–12 million initial dead, with millions more certain to fall victims to radiation poisoning. An unnamed Defense Department official, briefing reporters on the study on 31 May, explained: ‘That’s the worst-case scenario, if we have correctly guessed the number of weapons each side has, and their targets, and presuming they’re all ground bursts versus air bursts... The fatalities if they were air bursts would be slightly smaller by maybe a million, but... that’s still a very significant number...’. <http://www.acronym.org.uk/dd/dd65/65nr01.htm>

⁴Hagerty, ‘Nuclear Deterrence in South Asia’.

towards nuclear disarmament and arms control from the outset. However, when India increased the pace of its nuclear development and sought to build nuclear weapons, Pakistan was eventually forced to shift its policy in the direction of acquiring such weapons itself.

Pakistan's policy toward the NPT has always remained consistent and clear: it will sign the treaty if India does so or when and if the international community provides it with full security assurances. Second, Pakistan also at the same time regarded the NPT as a discriminatory regime that outlaws nuclear weapons for all states but five. For Pakistan, if nuclear weapons are a threat to international peace and security, then they should be totally eliminated. Third, Pakistan supported the idea of a NWFZ for South Asia, which could have offered the NWS a way forward to remove nuclear developments from the region. Pakistan also bilaterally offered India to forswear nuclear weapons, to agree to mutual inspection of nuclear facilities, to sign the NPT simultaneously and to open up its facilities for IAEA inspections. However, all these initiatives were rejected by India, leaving Pakistan no choice but to go nuclear. The fact that Pakistan is not a party to NPT does not mean that it is opposed to the global non-proliferation norms.

In practice, the NPT enforces double standards and confers an unequal status on nuclear and non-nuclear weapons states, setting different rules of behaviour for these categories. One standard is less restrictive for the NWS and the other sets higher demands for the NNWS.⁵ Such double standards have strengthened the 'Crisis of Trust' in the NPT. Therefore, the treaty regime has given a sense of fear to the less powerful states and encouraged NNWS to seek to acquire nuclear weapons. After the legalization of the NPT, the regime appeared as an overlapping web of agreements, norms, rules and

⁵ Perkovich, 'The End of the Non-proliferation regime?', p.355.

expectations, both formal and informal. The powerful states sought to act as ‘principal guardians of the regime’⁶ since its inception but their influential role has had a damaging effect. Although some reductions have been announced,⁷ the five NWS have failed to determine a set date by which they will proceed with the total elimination of nuclear weapons, since this affects their own stockpiles of weapons.

Non-observance of norms by the powerful has led to a degree of distrust – perhaps even repugnance – towards arms control among smaller states, which perceive that the powerful states crafted these regimes according to their interests. The degree of non-compliance with the NPT supports a realist interpretation, such as that articulated by John Mearsheimer – that the great powers are driven more by considerations of their ‘power’ and ‘interests’ than by normative considerations. The realist assumption that cooperation is difficult gains credence in the case of South Asia. Realists believe that the non-proliferation regime is weakening, and that this appears to reflect the interest of the great powers in the post-Cold War era. Realists regard the NPT as tantamount to a failed regime. In such a scenario regime theory loses credence. The realist emphasis that power and interest are embedded in international institutions, where gains are not equitable, serves to undermine cooperation in the international system. However, it should be argued that cooperation is possible in cases in which gains are shared equitably and in such cases regime theory has relevance. Hence, there is an urgent need to revive the non-proliferation regime and engage the non-NPT states in the ‘full

⁶ Chafetz, ‘The Political Psychology of Nuclear Weapons’, p.743.

⁷ The conclusion of the new START by President Obama after less than a year of negotiations is a significant diplomatic achievement that puts the process of verifiable strategic nuclear reductions back on track and will encourage other states to this move. Nevertheless, the new START will still leave the United States and Russia in possession of thousands of nuclear weapons.

spectrum of non-proliferation and disarmament standards and obligations',⁸ on the lines suggested in this study, exemplifying the arguments of regime theory.

Pakistan establishes the new nuclear taboo – the Role of International Institutions following the A. Q. Khan Revelations

The proliferation activities undertaken by A. Q. Khan were possible because of these factors: first, Pakistan provided Khan with enormous autonomy and authority so that he could act beyond the state's policies and regulations. Second, Khan achieved such a powerful position because his role was important in Pakistan's nuclear weapons programme in that he helped overcome all the obstacles to success so that he was regarded as a national hero. Third, because of his earlier role, Khan was familiar with the existing loopholes in the global non-proliferation system and the global black market. He went further than anyone had done before in exploiting these loopholes in order to export prohibited items of nuclear technology for profit. Fourth, on the international front, the US also turned a blind eye towards Khan's growing danger, until it was too late, in spite of the evidence of his importation activities before the mid-1990s. Fifth, several European countries must also be held responsible for their lax security arrangements and for not regulating their companies, which supplied not only Khan from 1976 until 2004 but also Iran, Iraq and Libya. The Khan proliferation case was a failure for all parties concerned (except, that is, for the short period when Khan and his associates made considerable profits from their activities).

The main transformation in the international environment of the 1990s was the profound challenge to the non-proliferation regime by certain NPT party states such as

⁸ Daryl G. Kimball, 'The NPT Hold-Out States and the Non-proliferation Regime: Fixing the Flaws in the U.S.-Indian Nuclear Cooperation Proposal', Paper presented at 18th UN Conference on Disarmament Issue in Yokohama (August 2006).

Iraq, Iran, North Korea and Libya. These developments shattered the export control policies implemented in the previous decades and led to a growing concern that the proliferation problems arose more from inside the NPT than outside. In the case of Iran, North Korea and Libya, the NPT as an institution failed to regulate their behaviour. These cases reveal the limited power wielded by the IAEA safeguards. The international institutions and non-proliferation regime failed to implement adequate measures to monitor Khan's proliferation activities.

Dramatic changes occurred in Pakistan's nuclear behaviour following the revelation of A. Q. Khan's proliferation case in 2003–4. With the help of the global community, Pakistan took a number of steps at the domestic level such as strengthening its export control laws, improving personnel security, and participating in an international nuclear security cooperation programme, which enhanced the security of its nuclear arsenals. The Pakistan–US partnership has dispelled misunderstanding; indeed increased trust and transparency has opened discussion forums for future relations. UNSC Resolution 1540 created a new norm and Pakistan as a non-NPT state operates fully under the rules established by the resolution which relates this case to the constructivist approach. After the implementation of the act on nuclear export control in 2004, Pakistan has followed international standards adopted by the NSG, MTCR and AG. It has also notified national Control Lists in regards to all concerns including Pakistan's Custom of implementation. Above all, an Oversight Board has been established to review the implementation of the Export Control Act 2004 and functioning of the SECDIV. Pakistan is receiving trained staff from the US and various other sources to implement and enforce the above act. Thus far there has been no reported case of proliferation from Pakistan after 2004.

The change in Pakistan's nuclear behaviour is highly significant. Pakistan has tightened security around its nuclear material and facilities and strengthened its export controls, seeking to align itself with international standards while remaining a non-NPT state. Pakistan is engaging with the international community to learn from their best practices and experiences. There is a need to formalize and institutionalise this interaction, for Pakistan to keep abreast and benefit from the experiences of other international export control regimes. These regimes, whose standards Pakistan has adopted, should make Pakistan a full partner which will strengthen the new nuclear taboo. Pakistan is fully alive to the threat of nuclear terrorism. Consistent with its national security interest, Pakistan has put in place legislative and regulatory frameworks and an organizational infrastructure to deal with the threat. International efforts against nuclear terrorism should be backed by an international consensus and based on a non-discriminatory approach. No state would be immune from the devastating consequences of an act of nuclear terrorism anywhere in the world. The objective of enhancing nuclear security should therefore be pursued in an inclusive manner. There is a need to review the approach of any set of arrangements which seeks to exclude non-NPT nuclear weapons states and which may result in a denial of dual-use technologies including safety and security related equipment. Pakistan should be made a full partner with the world community in the common endeavour against nuclear proliferation.

Pakistan has achieved its contribution, in practice, towards establishing the new nuclear taboo against nuclear proliferation.⁹ Other states have done likewise. Not all have done so, however, and there still remain important gaps in the new counter-proliferation regime. The importance of an effective campaign against those states

⁹ Rizwana Abbasi, 'Establishing the New Nuclear Taboo'.

which are in default, and other potential weaknesses in the regime (such as non-complaint companies and rogue individual proliferators) remain. The need is to focus the attention of the international community on all such cases with the same threat of international 'pariah state' status with which Pakistan was threatened in 2003-4 had it not fallen into line with the new nuclear taboo against nuclear proliferation. Fuller international awareness of the risks of proliferation and increased international recognition of the new taboo against nuclear proliferation are the essential first steps in strengthening the counter-proliferation regime. 'Pakistan is ready to share with [other] nations its competence in the area of nuclear security, particularly prevention, detection and response to illicit trafficking', a paper presented to the Washington D.C. security summit declared in April 2010. 'We urge all relevant forums to take steps to enable Pakistan to access civil nuclear energy and technology, in a non-discriminatory manner, under IAEA safeguards', the paper continued.¹⁰ Pakistan has moved a long way since the apologetic posture it had to adopt at the time of the A. Q. Khan revelations in February 2004.

How institutional counter-proliferation cooperation might evolve

It is in the world's interest to take stronger action through existing institutions and agreements so as to lower the nuclear menace and drive down the risk of catastrophe as close to zero as possible, as has been suggested by President Obama. President Obama's speech in Prague in April 2009 and the subsequent security summit of April 2010 represent the first steps emanating from his strategy of strengthening the role of international institutions and cooperation. Obama's strategy seeks to focus on fundamental points: building a sense of urgency and commitment worldwide;

¹⁰ Anwar Iqbal and Masood Haider, 'Pakistan also offers nuclear security skills to world', *Dawn* (16 April 2010).

introducing the appropriate rules and incentives; taking a partnership-based approach; broadening best practice exchanges and security culture efforts; establishing new mechanisms and building confidence in a multilayered defence; and providing the required leadership, planning and resources. In so far as its final document is concerned,¹¹ however, the NPT Review Conference in May 2010 has been something of a damp squib.

With a membership of 189 states, the NPT remains a potentially powerful process in helping to combat nuclear weapons proliferation and monitor the behaviour of a large number of states. However, four nuclear weapons states (Israel, India, Pakistan and North Korea, with a question mark over Iran) remain outside the NPT, which raises doubts over the future of the entire non-proliferation regime.¹² The role of the NPT can be revived if the powerful states promote equitably the formulated aims of non-proliferation, disarmament and the right of peaceful use of nuclear technology. The NWS should disarm and limit the nuclear arms race with the aim of complete disarmament, thus demonstrating their compliance with NPT obligations. The nuclear non-proliferation regime should contain both incentives and controls to influence the demand for nuclear weapons.

The IAEA is effectively promoting the NPT non-proliferation agenda. However, there is a need to give it an autonomous role free from the influence of the most powerful states with extra budget and funding. The multilateral export control regimes

¹¹ Report N1039021 at: <http://www.un.org/en/conf/npt/2010/index.shtml>

¹² Report of the International Commission on Nuclear Non-proliferation and Disarmament. The Non-NPT Nuclear-Armed States: Israel, India and Pakistan. Information Sheet No.13: 'One of the greatest challenges to creating a world free of nuclear weapons is the non-signature by India, Pakistan and Israel of the NPT and, their non-subjection as a result to the legal obligations and commitments of either nuclear-weapon states or non-nuclear-weapon states under that treaty, and their production of unsafeguarded fissile material – and nuclear weapons. The rest of the world calls for these three states to join the NPT as non-nuclear-weapon states and thereby make the treaty universal (treating North Korea for this purpose as a lapsed rather than non-member). But they are unwilling to join the NPT on this basis and cannot be forced to do so. Nor is there any constituency for them joining as nuclear-weapon states: the procedures for amending the NPT to allow such a change almost guarantees that this will not happen.' www.icnnd.org/reference/reports/ent/infosheets/InfoSheet_No13.pdf

should be merged into one institution and be attached to the NPT. This study concludes that the neo-liberal viewpoint that institutions are helpful in building cooperation among states and regulating their behaviour is a proven fact. Non-proliferation and disarmament can only be promoted through powerful institutions and cooperation among states, as in the initiatives proposed by the Obama administration. Yet the nuclear non-proliferation regime can truly change the behaviour of non-party states only if the existing crisis of trust is reduced and the tendency towards the discriminatory treatment of non-NPT states is overcome by a measured revision of the framework of the Treaty, if necessary by the addition of a new annex incorporating those nuclear weapons states which remain at present outside the NPT, strengthening the role of the IAEA and incorporating the multilateral export control regimes to the NPT.

The non-legal and informal status of some of the counter-proliferation measures (such as the PSI, CTR and GP) poses a big question mark on the legitimacy of these arrangements. These initiatives were initiated by the developed states with their own money for their own purposes. This is why, in realist discussion, such international agreements are interpreted as rules which are embodied in organisations functioning by their own personnel and budget. These arrangements are without any effective mechanism of command, since they are not legally placed under the control of the UNSC, and they lack coherence and legitimacy. Western scholars¹³ maintain that initiatives such as the PSI, CTR and GP were created to further strengthen the non-proliferation regime and that these efforts are not meant to be under a formal framework. The question arises as to how these measures can address loopholes in the non-proliferation regime when they have no legitimacy or formal status.¹⁴ For example,

¹³ Hans Blix, Olli Heionen, James Acton and informal discussion with other experts at INMM 50th Annual meeting in Tucson, Arizona (11–16 Jul 09)

¹⁴ '3. Explore new legal frameworks in international law that would facilitate nonproliferation goals. 4. Work to clarify and sort out the dazzling number of non-proliferation initiatives currently ongoing in the

Pakistani officials are not ready to accept these informal arrangements as they maintain that they go some way to meeting the interests of the Western states.¹⁵

At the heart of this debate, the question arises as to when and how to integrate India and Pakistan without harming the existing status of the nuclear non-proliferation regime. India for a long time has opposed the non-proliferation regime, regarding it as a discriminatory regime of the few nuclear 'haves'. However, since 2000 Indian behaviour towards global disarmament has changed since it is engaged in negotiations on its possible adherence to it.¹⁶ Indian behaviour has been further modified with the nuclear deal of 2005–8 legitimized by the NSG waiver of nuclear export controls. Pakistan wants a similar deal. It would be a more viable approach towards building constructive relations with Pakistan to guarantee the security of its nuclear arsenals. After reaching a special deal with India, the US has lost its leverage and undermined the set goals of the NPT. The chairman of the Pakistan Joint Chiefs of Staff Committee (CJCSC), General Tariq Majid, reaffirmed in June 2010 that the retention of a nuclear capability as a credible deterrent against possible aggression was a compulsion, and not a choice for Pakistan. As a responsible nuclear weapons state – although not a signatory to the NPT – Pakistan had always supported non-proliferation efforts and its position on disarmament had remained consistent and pragmatic. 'We, however, demand our rightful place as a nuclear weapon[s] state and reject discriminatory policies', the General continued. Speaking about discussions on a proposed Fissile Material Cut-Off Treaty (FMCT), he said that the FMCT was unacceptable as it was Pakistan-specific.

U.S. government. All motivated by 9/11, the current hodgepodge has become unmanageable. Congress cannot keep up with all of the initiatives, and neither can the White House.' P. E. Coyle and Victoria Samson, 'The Proliferation Security Initiative: background, history and prospects for the future', International Commission on Nuclear Non-Proliferation and Disarmament research paper (Jan. 2009). <http://www.icnnd.org/research/index.html>

¹⁵ Asif Durrani, Interview (July 2009, May 2010). Kamran Akhtar, Interview (2008)

¹⁶ K. Frey, *India's nuclear and national security*, p.189.

Other countries needed to be ‘sensitive to our security concerns rather than attempting in vain to browbeat us or riding roughshod over our concerns’.¹⁷

At the same time there is need to initiate a threat reduction programme between India and Pakistan which will guarantee the continuance of the existing nuclear taboo and also the new nuclear taboo against proliferation in South Asia. Pakistan’s document prepared for the Washington nuclear security summit in April 2010 noted: ‘Regional stability is important for nuclear security. We believe that Pakistan’s proposals on a Strategic Restraint Regime in South Asia – with its three elements of nuclear and missile restraint, a balance in conventional forces, and conflict resolution – will go a long way in making our region secure and stable.’¹⁸ The document reminded the world leaders that Pakistan had already concluded with India several CBMs. These include the pre-notification of ballistic missile testing, the establishment of a hotline, the prevention of attacks on nuclear installations and facilities, and an agreement on reducing the risk of accidents relating to nuclear weapons. ‘These efforts must continue. And our two nations – Pakistan and India – must continue to invest in a sustained and constructive dialogue.’¹⁹ Eventually – in spite of the views of the International Commission on

¹⁷ The General commented with regard to India that the ‘[g]rowing power imbalance due to continuing build-up of massive military machine, including both hi-tech conventional and nuclear forces, adoption of dangerous cold start doctrine and proactive strategy, more assertive posturing especially after very exceptional civil nuclear deal and notions of a two-front war are all destabilising trends, carrying implications for Pakistan’s security...’ Iftikhar A. Khan, ‘World must accept Pakistan as nuclear power: Gen Majid’, *Dawn* (18 June 2010). Pakistan has made it difficult to achieve any rapid progress on the negotiation of a Fissile Material Cut-off Treaty (FMCT) by suggesting that ‘the FMCT that has been proposed will only ban future production of fissile material’ and will ‘increase the existing asymmetry in fissile material stockpiles between Pakistan and India’. Eric Auner, ‘Pakistan Raises New Issues at Stalled CD’, *Arms Control Today* (March 2010). http://www.armscontrol.org/act/2010_03/CDStalled

¹⁸ ‘Pakistan has been upfront in linking the issues of nuclear arms race and the production of fissile material to peace and stability in South Asia. Meanwhile, as a nuclear state, Pakistan reiterated its mid-nineties proposal of establishing a Nuclear Restraint Regime in South Asia, which would promote nuclear and missile restraint, a balance in conventional forces, and conflict resolution.’ Nasim Zehra, ‘Pakistan–US: a new deal?’ Pakistan Defence Forum. <http://www.defence.pk/forums/strategic-geopolitical-issues/55011-pakistan-us-new-deal.html>

¹⁹ Anwar Iqbal and Masood Haider, ‘Pakistan also offers nuclear security skills to world’, *Dawn* (16 April 2010).

Nuclear Non-proliferation and Disarmament²⁰ – there is a need to attach both states to the NPT through an additional protocol without harming the existing status of the non-proliferation regime. The Obama administration has an opportunity to achieve more balanced relations with both India and Pakistan and begin the process of global disarmament which will ultimately change their behaviour. In the regional nuclear setting, nuclear competition and mistrust is not bilateral but triangular. India reacts not only towards Pakistan but also to China. China supports Pakistan, but also has an uneasy relationship with the USA, which views it as a potential enemy. Therefore the conclusion of this study does not support Philip Schweers' contention that the solution in South Asia lies in bilateral negotiations between India and Pakistan.²¹ The security dilemma of South Asia is sufficiently deep-rooted, and the prevention of risks and tensions between India and Pakistan sufficiently problematic, to require international institutions and the non-proliferation regime itself to play a role in possible conflict resolution, as was argued in chapter six.

What does the case study suggest about the strengths and limits of the three models approach?

The conceptual battle between realist and neo-liberal scholars developed in the post-Cold War era when neo-liberalism sought to overturn the realist paradigm by proclaiming that institutions have a significant role to play in global politics. Liberal scholars strongly believed that 'institutions are a powerful force to maintain peace and stability in a world free of cold war politics'.²² The ascendancy of the liberals was lost after the events of 9/11, when President Bush pushed for a unilateral pre-emptive

²⁰ Report of the International Commission on Nuclear Non-proliferation and Disarmament. The Non-NPT Nuclear-Armed States: Israel, India and Pakistan. Information Sheet no. 13.

²¹ Schweers, 'India and Pakistan', p.7.

²² Nuruzzaman, 'Liberal Institutionalism and Cooperation', p.1.

strategy. Bush's policy steered the US away from reliance on international institutions to deal with the threat of Al-Qaeda and subsequently Saddam Hussein of Iraq. This policy served to bring realist thought back to the mainstream. Neo-conservative power and influence played a vital role in the Bush administration. There was an attempt to expand the American vision of free market democracy through military power, which had the effect of significantly undermining international institutions. The US moved away from the previous reliance on global alliances and international institutions, and took unilateral action which undermined the norms, values and goals of multilateral institutions like the UN.²³ This is why realists believe that the powerful maximize their interests and influence international institutions. The realist belief that the distribution of power encourages the powerful to initiate costly wars to expand their dominance has also gained relevance. The Bush era has challenged liberals' assumptions by unilateral acts such as the invasion of Afghanistan and Iraq, thus reformulating US foreign policy.

Nevertheless, liberalism retains its relevance and will continue to be applicable in future as the centres of world economic power shift and new alliances are formed. The question arises as to whether the realist approach that cooperation among states is difficult to sustain gains greater relevance than the liberal view that international institutions build cooperation and help introduce peace and stability. Before the Bush era, President Clinton had taken multilateralism and institutions more seriously, which favoured the liberal approach. Realist theory may once more be in decline in practice: President Obama strongly believes in international institutions, alliances and cooperation. He has stated his intention to move forward, strengthening alliances, rebuilding cooperation and introducing change within the international system. States' relative gains can be converted into absolute gains through institutions and cooperation.

²³ Ibid.

The fear of cheating can also be overcome through an approach based on cooperation when the risks of failure are relatively high.

The adequacy and limits of regime theory

The history of Pakistan's dealings with the West and especially with the non-proliferation regime clearly demonstrates the relevance of regime theory and its future role. Today's world problems are sufficiently complex and interrelated that they require global solutions based on a multilateral approach. The major challenges facing the world are the ongoing economic crisis, global warming, nuclear terrorism and the proliferation of nuclear weapons. There are now new emerging economic power blocs, such as the EU, China and India. New security challenges require a strengthening of NATO and an improved partnership between the EU and the USA. International institutions need to be strengthened to counter the emerging threats to global security, of which nuclear terrorism is one particularly potent and pressing concern. If the regions of the world remain anarchic or semi-anarchic, then according to the realists, the risk is that the powerful will dominate the world or that an irresponsible non-state actor may, for example, gain access to WMD. In his research paper introducing the concept of 'proliferation resistance', John Carlson makes the distinction in proliferation paths between 'diversion' and 'break-out'.²⁴ Carlson argues:²⁵

²⁴ 'Diversion involves the misuse of nuclear facilities or materials that are subject to peaceful use commitments – e.g. under the NPT – including operation of undeclared facilities. Diversion therefore implies attempted evasion of safeguards. [This occurred in 1974 with the Indian PNE.] Break-out involves abrogation of peaceful use commitments, and use for military purposes of facilities acquired while under peaceful use commitments. While preparations for break-out may be made in secret, break-out implies willingness to withdraw from relevant treaty commitments – e.g. formal withdrawal from the NPT – or openly to breach these commitments.' John Carlson, 'Introduction to the Concept of Proliferation Resistance', ICNND Research Paper No.8, revised (3 June 2009), p.11.
<http://www.icnnd.org/research/index.html>

²⁵ Ibid., p.12.

Safeguards can only verify the present and the past, there is no way to verify the future. Thus safeguards cannot provide an effective counter to the risk of break-out, where by definition the state no longer accepts safeguards. At the technical level, the most effective counter to the risk of break-out is to limit the opportunity for states to acquire militarily useful nuclear facilities and materials. In this regard, the incorporation of proliferation-resistant features in nuclear facilities is particularly important – as well as institutional measures to address technology acquisition.

Both this task, and the need for a ‘proliferation-resistant fuel cycle’,²⁶ which would reduce the terrorist threat of theft or seizure of plutonium fuel, will require international collaboration on a scale not witnessed hitherto. Regime theory provides the only way out from the realists’ anarchic world, suggesting that a constructive outcome to prevent horizontal proliferation is possible. New technical solutions to grave problems, which operate in the interests of all peaceful states, can only be achieved by building alliances and cooperation. In the future, if states operate in isolation and solely according to self-interest, the interests of all assuredly will suffer.

²⁶ Ibid., p.13: ‘The principal terrorist concern is with the possible theft or seizure of plutonium fuel. Plutonium is not used in nuclear power programs in pure form, but in MOX, a mixture with uranium. However, small-scale chemical processing of unirradiated MOX to separate plutonium would not be beyond the capabilities of a well organized and resourced sub-state group.’

Appendix I

This table below shows total interviews with names, places and purpose

	Serial No.	Names	Designation	Places	Date	Purpose
International						
	1.	Dr. Hans Blix	Former, Director General, IAEA and Chairman Weapons of Mass Destruction	Tucson, Arizona	16 July 2009	He was the Head of the IAEA (1981-1997) when Pakistan was developing its nuclear facilities in 1980s
	2.	Olli Heinonen	Deputy Director General, IAEA and Head of the Department of International Safeguards	Tucson, Arizona	14 July 2009	He played an important role in investigating Pakistan's proliferation case
	3.	James Acton	James M. Acton, Associated at the Carnegie Endowment in the Non-proliferation Program	Tucson, Arizona	15 July 2009	Acton is specializing in non-proliferation and disarmament with especial attention to the civilian nuclear industry, IAEA safeguards, and practical solutions to strengthening the non-proliferation regime.
	4.	Corey Hinderstein,	Vice-President for International Programs, Nuclear Threat Initiative (NTI)	Tucson, Arizona	13 July 2009	
	5.	Andrew Barlow	British Official	British Commonwealth Office	2007	Policy expert on Non-proliferation
	6.	Professor Richard Bonney	University of Leicester	Leicester	2009	Professorial research fellow, RUSI, expert on South Asia
National						
Military Officials						
	7.	Gen. Ehsan	Former Head, ISI and Chairman Joint Chief	London	2009	

			of Staff			
	8.	Gen. Asad Durrani	Former Head, ISI	Islamabad	2007	
	9.	Gen. K.M. Arif	Former Head, ISI	Islamabad	2007	
	10.	Gen. Mirza Aslam Beg	Former Chief of Army Staff	Rawalpindi, Pakistan	2007 & 2008	
Government officials						
	11	Kamran Akhtar	Director Disarmament Cell, Ministry of Foreign Affairs	Frequent meetings (2006, 2007 and 2008)	2007 and 2008	Head of Disarmament Cell, has global interaction on behalf of a state and very knowledgeable
	12	Asif Durrani	Former Director Disarmament Cell, Ministry of Foreign Affairs	London (frequent meetings 2009)	2009	Former head of Disarmament Cell, has global interaction on behalf of a state and holds all information
	13	Abdul Basit	Former Director Disarmament Cell and Presently Foreign Office's Spoke-person	London (frequent meetings)	2006-2008	Former head of Disarmament Cell, Ministry of Foreign Affairs
	14	Brig.Naeem Salik	Former Director, Strategic Plan Division (SPD)	SPD, Rawalpindi	2006	Then Director, Arms Control and Disarmament Affairs
	15	Khalid Banuri	Director SPD	SPD, Rawalpindi	2007	Director, Arms Control and Disarmament Affairs
Academics						
	16	Zahid Malik	Editor, <i>Observer</i> , and a close friend to A.Q.Khan	Islamabad	2007	Author of <i>Dr. A. Q. Khan and the Islamic Bomb</i>
	17	Kamal Matinudin	Retired General and author	Rawalpindi	2007	He has produced several books on the subject
	18	Dr. Riffat Hussain	Head, Department of Defence Strategic Studies, Quaid-i-Azam University, Islamabad	Washington D.C	24 Jul 2009	Hussain has extensively written on Pakistan's nuclear programme

Bibliography

Interviews

1. Acton, James M., Associated at the Carnegie Endowment in the Non-proliferation Program, Washington DC. (Arizona, Tucson, 14 July 2009).
2. Akhtar, Kamran, Director Disarmament Cell, Ministry of Foreign Affairs Frequent Meetings (Islamabad, 2006, 2007 and 2008).
3. Arif, Gen. K.M., Former D.G., ISI and Chief of Army Staff (Islamabad, Jul 2007).
4. Banuri, Khalid, Director, Arms Control and Disarmament Affairs, SPD (Rawalpindi, SPD, 2007).
5. Barlow, Andrew, Official British Commonwealth Office (2007).
6. Basit, Abdul, Former Director Disarmament Cell and Presently Foreign Office Spoke person (London, 2008).
7. Beg, Gen. Mirza Aslam, Former Chief of Army Staff Rawalpindi, Pakistan (2007 & 2008).
8. Blix, Hans, Former Director General, IAEA and Chairman Weapons of Mass Destruction (Arizona, Tucson, 16 July 2009).
9. Bonney, Professor Richard, University of Leicester (20 April, 2009).
10. Durrani, Asif, Former Director Disarmament Cell, Ministry of Foreign Affairs, Islamabad, Present Deputy High Commissioner, UK (London, 2009-2010).
11. Durrani, Gen. Asad, Former DG. ISI (Islamabad June 2007).
12. Haq, Gen. Ehsan-ul- Former Head, ISI and Chairman Joint Chief of Staff (London, 2009).

13. Heinonen, Olli, Deputy Director General, IAEA and Head of the Department of International Safeguards (Arizona, Tucson, 15 July 2009).
14. Hinderstein, Corey, Vice-President for International Programs, Nuclear Threat Initiative (Arizona, Tucson, 13 July 2009).
15. Hussain, Professor Riffat, Head, Department of Defence Strategic Studies, Quaid-i-Azam University, Islamabad (Washington D.C. 24 Jul 2009).
16. Malik, Zahid (close friend to A.Q.Khan), Author of Dr. A. Q. Khan and the Islamic Bomb and Editor, Observer (Islamabad, Oct. 2008).
17. Matinudin, Kamal, Retired General and author (Rawalpindi, 2007).
18. Salik, Brig. Naeem, Former Director, Strategic Plan Division (Rawalpindi, SPD, 2006).

Speeches and Documents

1. ‘The Comprehensive Test Ban Treaty: Next Step’, proceedings of conference at Centre for International Security and Cooperation (CISAC), (Stanford University 19 July 2000).
2. Abbasi, Rizwana, ‘Establishing the New Nuclear Taboo: Pakistan’s Nuclear Behaviour after the Revelation of the A. Q. Khan Case’, *Paper presented at INMM 51st Annual Meeting*, Baltimore, MD, USA, 11-15 Jul 2010.
3. Abbasi, Rizwana, ‘The Nuclear Non-Proliferation Regime – Policies and Regulations Towards Non-Party States’, *INMM 50 Anniversary Meeting*, Tucson, Arizona, 12-16 Jul 2009.

4. Akram, Zamir, Statement as Permanent Representative of Pakistan to the UN, Geneva, in the First Committee (General Assembly), New York, 7 October 2008.
5. Cronin, Richard P. et al., 'Pakistan's Nuclear Proliferation Activities and the Recommendations of the 9/11 Commission', *CRS Report for Congress Report* (24 May 2005).
6. Department of Defence, 'Proliferation: Threat and Response', *Department of Defense, United State of America* (January, 2001).
7. Document Reported by the Director General IAEA, 'Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran', GOV/2006/15 (27 February 2006).
8. ElBaradei, Mohamed, 'Addressing Verification Challenges', Symposium on International Safeguards, Vienna, Austria (16 Oct 2006).
9. Elbaradei, Mohamed, 'Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran', a report by the Director General of the IAEA board of governors, GOV/2003/40 Vienna, Austria, 6 June 2003: <http://www.fas.org/nuke/guide/iran/iaea0603.pdf> (last visited on 30 June 2010).
10. Hyder, Tariq Osman, 'Pakistan and the Regional Situation', Oxbridge Lecture at the Sir Syed Memorial Society, Islamabad (30 April 2009).
11. IAEA Document, 'Pakistan's national legislation entitled: "Export Control on Goods, Technologies, Material and Equipment related to Nuclear and Biological Weapons and their Delivery Systems Act, 2004"' <http://www.iaea.org/Publications/Documents/Infcircs/2004/infcirc636.pdf>, (last visited on 30 June 2010).

12. Kerr, Paul and Mary Beth Nikitin, 'Pakistan's Nuclear Weapons: Proliferation and Security Issues', *Congressional Research Service* (30 July 2009).
13. Kerr, Paul K., and Mary Beth Nikitin, 'Pakistan's Nuclear Weapons: Proliferation and Security Issues, *CRS Report for Congress* (23 Feb. 2010).
14. Kimball, Daryl G., 'The NPT Hold-Out States and the Non-proliferation Regime: Fixing the Flaws in the U.S.-Indian Nuclear Cooperation Proposal', Paper presented at 18th UN Conference on Disarmament Issue in Yokohama (August 2006).
15. Koblenz, Gregory D., 'The Politics of Nuclear Cooperation, Why states share nuclear weapons technology', *Annual meeting of the American Political Science Association* (September 1-4, 2005).
16. Lipson, Michael, 'Organised Hypocrisy and the NPT,' Political Science Department Concordia University, Paper prepared for presentation at the American Political Science Association Annual Meeting, Washington, DC, September 1-4, 2005
17. Markey, Edward J., 'Russia, Iran, and Nuclear Weapons: Implications of the Proposed US-Russia Agreement', *Testimony presented before a Hearing of the House Foreign Affairs Committee* (12 June 2008).
18. Negroponte, John D., Deputy Secretary of State, Opening Statement Before House Foreign Affairs Committee Washington, DC, Hearing on Democracy, Authoritarianism and Terrorism in Contemporary Pakistan (7 Nov. 2007).
19. PakDef E-Reporter, Pakistan Military Consortium, Vol. I, No. 2, (Dec 2006 / Jan 2007).
20. President Obama's 100th-Day Press Briefing transcript (29 April 2009).

21. Quassi, Sharon, 'Proliferation Security Initiative (PSI)', *CRS Report for Congress*, Order Code RS21881, Updated (14 September 2006).
22. Rice, Condoleezza, 'The US-India Civil Nuclear Cooperation Initiative', *address to Senate Foreign Relations Committee* (5 April 2006):
23. Tannenwald, Nina, 'The Nuclear Taboo and the Nuclear Non-proliferation Regime', Prepared Remarks to the 2005 Carnegie Endowment Non-proliferation Conference, November 7, 2005
24. United States General Accounting Office, Report to Congress Committee: 'Strategy Needed to Strengthen Multilateral Export Control Regime', (October 2002) at <http://italy.usembassy.gov/pdf/other/d0343.pdf> (last visited on 30 June 2010).
25. US Department of State Dispatch 2, No. 47 (25 November 1991).

Books

1. Abbas, Hassan, *Pakistan's Drift into Extremism* (New York: M.E. Sharpe, 1st edition, 2004).
2. Ahmed, Ishtiaque (ed.), *Nuclear Non-proliferation Issues in South Asia* (Islamabad: A joint publication of Islamabad Council of World Affairs (ICWA) and Hann-Seidel Foundation, Germany, 1996).
3. Ahmed, Samian and David Cortright (eds.), *Pakistan and the Bomb*, (Notre Dame: The University of Notre Dame Press, 1998).
4. Ali, Akhtar, *Pakistan's Nuclear Dilemma: Energy and Security Dimensions* (Karachi : Economist Research Unit, 1984).

5. Allen, Craig H., *Maritime Counter Proliferation Operations and the Rule of Law* (Westport, CT: Praeger Security International, 2007).
6. Arbatov, Alexi and Vladimir Dvorkin (eds.) *Nuclear Deterrence and Non-Proliferation* (Moscow: Carnegie Moscow Center, 2006).
7. Armstrong, David , *America and the Islamic Bomb: The Deadly Compromise* (Hanover, N.H. : Steerforth Press, 2007).
8. Art, Robert J. and Kenneth N. Waltz, *The Use of Force* (University Press of America, 1983).
9. Babu, D. Shyam, *Nuclear Non-Proliferation: Towards a Universal NPT Regime*, (Konark Publishers Pvt, Limited, 1992).
10. Baldwin, D. (ed.), *Neorealism and Neo-liberalism: The contemporary debate* (Columbia University Press, 1993).
11. Bhutto, Benazir, *Daughter of the East* (London: Hamish Hamilton, 1988).
12. Bhutto, Zulfikar Ali, *If I am Assassinated* (Pakistan: Vikas, 1979).
13. Bhutto, Zulfikar Ali, *The Myth of Independence* (USA: Oxford University Press, 1969).
14. Blair, Bruce G., *The Logic of Accidental Nuclear War* (Washington D.C.: Brookings University Press, 1993).
15. Boer, Joop, et al. A. Q. Khan, *Urenco, and the Proliferation of Nuclear Weapons Technology* (New York: Greenpeace International, May 2004).
16. Booth, Ken and Nicholas J. Wheeler, *The Security Dilemma: Fear, Cooperation, And Trust In World Politics* (New York: Palgrave Macmillan, 2008).
17. Bosch, Olivia and Peter van Ham (eds.), *Global Non-Proliferation and Counter-Terrorism: The Impact of UNSCR 1540* (London: Brookings Press, Chatham House, and Clingendael, 2007).

18. Bowen, Wyn O., *Libya and Nuclear Proliferation: Stepping Back from Brink* (London: Rutledge, 2006).
19. Brenner, J. Michael, *Nuclear Power and Non-proliferation: The Remaking of U.S Polity* (New York: Cambridge University Press, 1981).
20. Brown, Michael E., Sean M. Lynn-Jones and Steven E. Miller (eds.), *The Perils of Anarchy* (Cambridge: MIT Press).
21. Byers, Michael, *Customs, Power and the Power of Rules* (Cambridge: Cambridge University Press, 1999).
22. Carlsnaes, Walter, *Thomas Risse and Beth A. Simmons*, *Handbook of International Relations* (Sage Publications (CA): 2002).
23. Carr, Edward Haller, *The Twenty Years Crisis, 1919-1939* (Palgrave Macmillan: 2001).
24. Carranza, Mario Esteban, *South Asian Security and International Nuclear Order* (Aldershot: Ashgate publishing Limited, 2009).
25. Cohen, Stephen P. (ed.), *Nuclear Proliferation in South Asia: The Prospects for Arms Control* (Colorado: West View Press, 1991).
26. Chakma, Bhumitra, *Pakistan's Nuclear Weapons* (London: Rutledge, August 2008).
27. Chambers, Michael R. (ed.), *Asia in 2020: Future Strategic Balance and Alliances*, (Strategic Studies Institute (SSI): 2002).
28. Chari, P.R., et al. (eds.), *Nuclear Non-Proliferation in India and Pakistan: South Asian Perspective* (New Delhi: Manohar, 1996).
29. Cheema, Pervaiz Iqbal and Imtiaz H. Bokhari (eds.), *Arms Race and Nuclear Developments in South Asia* (Pakistan: Islamabad Policy Research Institute, 2004).

30. Clinton, Bill, *My Life* (London: Arrow Books, 2005).
31. Cloughley, Brian, *A History of the Pakistan Army: Wars and Insurrections* (New York: Oxford University Press, 1999).
32. Coll, Steve, *Ghost Wars* (New York: Penguin, 2004).
33. Corera, Gordon, *Shopping for Bombs* (New York: Oxford University Press, 2006).
34. Crawford Robert M.A., *Regime Theory in the Post-Cold War World: Rethinking Neoliberal Approaches to International Relations*, (Sudbury: Dartmouth Publishing Co Ltd: 1996).
35. Stephen, D. Krasner, *Structural Conflict: The third World against Global Liberalism* (University of California Press, 1985).
36. Davis, Zachary S. and Benjamin Frankel (eds.), *The Proliferation Puzzle, Why Nuclear Weapons Spread and What Results* (London: Routledge: 1993).
37. Dixit, J. N., *India-Pakistan in War and Peace* (Taylor & Francis, Inc., 2002).
38. Feaver, Peter Douglas, *Guarding the Guardians: Civilian Control of Nuclear Weapons in the United States* (Ithaca, New York: Cornell University Press, 1992).
39. Frankel, Benjamin (ed.), *Opaque Nuclear Proliferation* (London: Frank Cass, 1991).
40. Frantz, Douglas and Catherine Collins, *The Nuclear Jihadist* (New York: Twelve, 2007).
41. Freedman, Lawrence, *The Evolution of Nuclear Strategy* (New York: Palgrave Macmillan 3rd edition, 2003).

42. Frey, Karsten, *Elite Perception and Biased Strategic Policy Making: The Case of India's Nuclear Build-up*, Inaugural Dissertation (Ruprecht-Karls-Universität Heidelberg, Oct. 2004).
43. Frey, Karsten, *Elite Perception and Biased Strategic Policy Making* (Hochschulschrift: Heidelberg, Univ., Diss., (Publikationsdatum 2005).
44. Fritz, Jan-Stefan, *Regime Theory: A new Theory of International Relations*, PhD Dissertation (University Microfilms Inc., 2000).
45. Ganguly, Sumit and Devin T. Hagerty, *Fearful Symmetry: India-Pakistan Crisis in the Shadow of Nuclear weapons* (New Delhi: Oxford University Press, 2005).
46. Ganguly, Sumit and Paul Kapur (eds.), *Nuclear Proliferation in South Asia: Crisis_Behavior and the Bomb* (Oxon: Routledge, 2009).
47. George, Alexander and Richard Smoke, *Deterrence in American Foreign Policy: Theory and Practice* (New York: Columbia University Press, 1974).
48. Goldstein, Lyle J., *Preventive Attack and Weapons of Mass Destruction: A Comparative Historical Analysis* (Stanford University Press, 2006).
49. Haass, N., *Economic Sanctions and American Diplomacy* (New York: Council on Foreign Relations, 1998).
50. Hagerty, Devin T, *The Consequences of Nuclear Proliferation: Lessons from South Asia* (Cambridge: Massachusetts, 1998).
51. Hasenclever, Andreas, Peter Mayer and Rittberger, *Theories of International Relations* (Cambridge University Press, 1997).
52. Hyde-Price, Adrian, *European Security in the Twenty-first Century* (London: Rutledge, 2007).
53. Hymans, Jacques E. C., *The Psychology of Nuclear Proliferation* (Cambridge: Cambridge University Press 2006).

54. Jaffrelot, Christophe (ed.), *Hindu Nationalism. A Reader* (Princeton and Oxford: Princeton University Press, 2007).
55. Jervis, Robert, *The Illogic of American Nuclear Strategy* (Ithaca: Cornell University Press, 1984).
56. Jones Owen Bennett, *Pakistan: Eye of the Storm* (New Haven, Conn.: Yale University Press, 2002).
57. Jones, Rodney W., *Tracking Nuclear Proliferation 1998* (Washington: Carnegie Endowment for International Peace, 1998).
58. Joyner, Daniel (ed.), *Multilateral Export Control Regime: Operations, Successes, Failure and the Challenges Ahead* (2006)
59. Kahn, Herman, *On Thermonuclear War* (Princeton: Princeton University Press, 1961).
60. Kapur, Ashok, *Pokhran and Beyond: India's Nuclear Weapons Capability* (OUP India: 2003)
61. Kapur, Ashok, *India - from Regional to World Power* (London: Routledge, 1 edition 2006).
62. Kapur, Ashok, *India's Nuclear Option: Atomic Diplomacy and Decision Making* (Praeger Publishers Inc: 1976)
63. Kapur, Ashok, *Pakistan's Nuclear Development* (New York: Croom Helm in association with Methuen, 1987).
64. Kapur, S. Paul, *Dangerous Deterrent: Nuclear Weapons Proliferation and Conflict in South Asia* (Stanford University Press, 2008)
65. Katzenstein, Peter (ed.), *The Culture of National Security: Norms and identity in World Politics* (1996).

66. Keohane, Robert O, *After Hegemony: Cooperation and Discord in the World Politics Economy* (Princeton University Press, 1984).
67. Keohane, Robert O. and Joseph S. Nye, *Power and Interdependence: World Politics in Transition* (Boston: Little, Brown and Company, 1977).
68. Kile, Shannon N. (ed.) *Europe and Iran: Perspectives on Non-Proliferation* (New York: Oxford University Press, 2005).
69. Kincade, William H. and Christoph Bertram (eds.), *Nuclear Proliferation in the 1980s* (London: The Macmillan Press, 1982).
70. Kissinger, Henry, *A World Restored* (Weidenfeld & Nicolson History, 2000).
71. Kohane, Robert , *International institution and State Power* (Boulder, Colo.: West view Press, 1989).
72. Kranser, Stephen D. (ed.), *International Regimes* (New York: Cornell University press, 1983).
73. Krasner, Stephen D. *Sovereignty: Organized Hypocrisy* (New Jersey: Princeton University Press, 1999).
74. Krass, Allan S., et al., *Uranium Enrichment and Nuclear Weapon Proliferation* (London: Taylor & Francis, 1983).
75. Krosney, Weissman, *The Islamic Bomb: The Nuclear Threat to Israel and the Middle East* (New York: Times Books: 1 January 1981).
76. Kux, Dennis, *The United States and Pakistan, 1947-2000: Disenchanted Allies* (Johns Hopkins University Press, Jun 2001).
77. Lamb, Christina, *Waiting For Allah, Pakistan's Struggle For Democracy* (London: Hamish Hamilton, 1991).

78. Lavoy, Peter R, Scott D. Sagan and James J Wirtz (eds.), *Planning the Unthinkable: How New Powers Will Use Nuclear, biological and chemical weapons* (Ithaca, NY: Cornell University Press, 2000).
79. Levy, Adrian and Catherine Scott-Clark , *Deception* (New York: Walker & Company, 2008).
80. Lewis, John Wilson and Xue Litai. *China Builds the Bomb* (Stanford, Calif.: Stanford Macmillan, 2003).
81. Malik, Zahid, *Dr. A. Q. Khan and the Islamic Bomb*. Islamabad (Pakistan: Hurmat, 1992).
82. Margalit, Edna Ullman, *The Emergence of Norms* (Oxford: 1977).
83. Matinuddin, Kamal, *The Nuclearization of South Asia* (Oxford: Oxford University Press: 2002).
84. Mian, Zia (ed.), *Pakistan's Atomic Bomb and the Search for Security* (Lahore: Gautam Publishers, 1995).
85. Mirchandani, G.G., and P.K.S Namboodiri, *Nuclear Indian: a Technological Assessment* (1981).
86. Muller, Heral et. el., *Nuclear Non-Proliferation and Global Order* (Oxford: Oxford University Press, 1994).
87. Musharraf, Pervez, *In the Line of Fire* (London: Simon & Schuster Ltd., 2006).
88. Paul, Gregory, *The Relevance of Regime Theory to Efforts at Nuclear Non-Proliferation: An Assessment* (University of New Orleans, Political Science PhD, 1996).
89. Perkovich, George, *India's Nuclear Bomb, the Impact on global proliferation* (London: University of California Press, 2001).

90. Quester, George H. (ed.), *Nuclear Proliferation* (London: The University of Wisconsin Press, 1981).
91. Radcliffe-Brown, A.R., *Taboo* (Cambridge : Cambridge University Press, 1939).
92. Rahman, Shahid-ur-, *Long Road to Chagai* (Islamabad: Print Wise, 1999).
93. Rashid, Ahmed, *Taliban: Militant Islam, Oil and Fundamentalism in Central Asia* (New Haven, Conn.: Yale University Press, 2000).
94. Rengger, N.J, *Treaties and the Alliances in the World* (London: Longman Group, 1990).
95. Rittberger, Volker and Peter Mayer (eds.), *Regime Theory and International Relations* (New York: Oxford University Press, 1993.).
96. Rogers, Paul, *Losing Control: Global Security in the 21st Century* (London: Pluto Press, March 2010).
97. Rotberg, Robert I. and K. Rabb (eds.), *The origin and Prevention of Major Wars* (New York : Cambridge University Press ,1988).
98. Ruggie, John, *Constructing the World Polity: Essays on international institutionalization* (London: Routledge, 1998).
99. Sagan, Scott D. and Kenneth N. Waltz (eds.), *The Spread of Nuclear Weapons with New Sections on India and Pakistan, Terrorism, and Missile Defence* (New York: W W Norton and Company, 2002).
100. Sagan, Scott D., *The Limits of Safety: Organizations, Accidents, and Nuclear Weapons* (Princeton, NJ: Princeton University Press, 1993).
101. Sagan, Scott D. *The Limits of Safety: Organizations, Accidents, and Nuclear Weapons* (Princeton: Princeton University Press, 1993).
102. Salik, Naeem, *The Genesis of South Asian Nuclear Deterrence: Pakistan's Perspective*, (Karachi; Oxford: Oxford University Press, 2009).

103. Schelling, Thomas C., *Arms and Influence* (New Haven, CT: Yale University Press, 1966).
104. Schoettle, E.C.B., *Posture for Non-Proliferation: Arms Limitation and Security Policies to Minimize Nuclear Proliferation* (London : Taylor & Francis ; New York : distributed in the U.S.A. by Crane, Russak, 1979).
105. Sokolski, Henry D. (ed.), *Pakistan's Nuclear Future: Worries Beyond War* (Strategic Studies Institute: January 2008)
106. Solingen, Etel, *Nuclear Logics: Contrasting Paths in East Asia and Middle East* (New Jersey: Princeton University Press, 2007).
107. Spector, L S & J R Smith, *Nuclear Ambitions: The Spread of Nuclear Weapons 1989-1990* (Colorado: West view Press, 1990).
108. Speier, Richard H., Brian G. Chow, S. Rae Starr, *Nonproliferation Sanctions* (RAND: 2001).
109. Spiegel, Steven L., Jennifer D. Kibbe and Elizabeth G. Matthews (PLACE: The Edwin Mellen Press, 2001).
110. Sreedhar, (ed.) *Pakistan's Bomb: A Documentary Study* (New Delhi: ABC Publishing 2nd edition, 1987).
111. Tannenwald, Nina, *Nuclear Taboo: The United States and the Non-Use of Nuclear Weapons since 1945* (Cambridge University Press, 2006).
112. Vayrynen, Raimo (ed.), *Globalization and Global Governance* (Oxford: Roman and Wittlefield, 1999).
113. Waltz, Kenneth N., *Theory of International Politics* (New York: McGraw-Hill Higher, Education, 1979).
114. Waltz, Kenneth N. and Scott D. Sagan, *The Spread of Nuclear Weapons: A Debaterenewed* (Washington, D.C.: Woodrow Wilson Center Press, 2001).

115. Weissman, Steve and Herbert Krosney, *The Islamic Bomb* (Delhi: Vision Books, 1983).
116. Wolpert, Stanley A., *A New History of India* (New York: Oxford University Press, 6th edition, 2000).

Journals and Newsletters

1. 'Asian Export Control Observer', Issue No. 3, *Centre of Non-proliferation Studies, CNS Publication* (August/September 2004).
2. 'The A. Q. Khan Revelations and Subsequent Changes to Pakistani Export Controls', *A publication of the Centre for Nonproliferation Studies*, Issue 7 (May 2005).
3. Abe, Nobuyasu, 'Existing and Emerging Legal Approaches to Nuclear Counter-Proliferation in The Twenty-First Century', *International Law and Politics* (2007).
4. Ahmed, Ali, 'Pakistan's Nuclear Assets', *CBRN South Asia Brief* (February 2009).
5. Ahmed, Samian, 'Pakistan's Nuclear Program', *International Security*, Vol. 23, No. 4 (Spring 1999).
6. Ahmed, Samina, et al., 'Public Opinion and Nuclear Options for South Asia', *Asian Survey*, Vol. 38, No. 8 (Aug., 1998).
7. Albright, David and Corey Hinderstein, 'Unravelling the A. Q. Khan and Future Proliferation Networks' *The Washington Quarterly* (Spring 2005).
8. Albright, David and Mark Hibbs, 'Pakistan's Bomb: out of the Closet', *Bulletin of the Atomic Scientist*, Vol. 48, No. 6 (July-August 1992).

9. Axelrod, Robert, 'An Evolutionary Approach to Norms,' *American Political Science Review*, Vol. 80 (1986).
10. Beck, Michael, et al., 'Strengthening Multilateral Export Controls', *CITS. University of Georgia publication* (Sept. 2002).
11. Beg, General Mirza Aslam, 'Pakistan's Nuclear Imperatives,' *National Development and Security* , Vol. III, No.2, Serial No.10 (November 1994).
12. Beg, General Mirza Aslam, 'Pakistan's Nuclear Programme: A National Security Perspective,' *National Development and Security*, Vol. 2 (February 1993).
13. Bermudez, Joseph S. Jr., 'A History of Ballistic Missile Development in the DPRK,' *Monterey Institute of International Studies*, Occasional Paper, No. 2 (November 1999).
14. Bernstein, Steven, 'Ideas, Social Structure and Compromise of Liberal environmentalists', *European Journal of International Relations*, Vol. 6, No. 4 (2000).
15. Bjorkdahl, Annika, 'Norms in International Relations: Some Conceptual and Methodological Reflections,' *Cambridge Review of International Affairs*, Vol. 15, Issue, 1(2002).
16. Blair, Bruce G., 'Nuclear Inadvertence: Theory and Evidence,' *Security Studies*, Vol. 3, No. 3 (Spring 1994).
17. Blanchard, Christopher M., 'Al Qaeda: Statements and Evolving Ideology', *CRS Report for Congress* (Updated 9 Jul 2007).

18. Boese, Wade, 'U.S. Withdraws From ABM Treaty; Global Response Muted,' *Arms Control Today* (July/August 2002).
19. Bokhari, Sarah, 'The United States' dealings with nuclear terrorism: Cooperation for prevention', *Journal on Science and World Affairs*, Vol. 2, No. 1 (2006).
20. Bolton, John R., 'America's Scepticism about the United Nations', *USIA Electronic Journals* 2/2 (May 1997).
21. Botcheva, Liliana and Lisa L. Martin, 'Institutional Effects on State Behaviour: Convergence and Divergence', *International Studies Quarterly*, Vol. 45, No. 1 (March 2001).
22. Brown, Harold, 'New Nuclear Realities', *The Washington Quarterly* (Winter 2007-08).
23. Brzoska, Michael, 'Is nuclear Non-proliferation a Regime? A Comment on Trevor McMoris Tate,' *Journal of Peace Research*, Vol. 29, No. 2 (May 1992).
24. Bunn, George, 'The Nuclear Nonproliferation Treaty: History and Current Problems,' *Arms Control Today* (December 2003).
25. Chafetz, Glenn, 'The Political Psychology of Nuclear Non-proliferation Regime,' *Journal of Politics*, Vol. 57, No.3 (August 1995).
26. Chakma, Bhumitra, 'Road to Chagai: Pakistan's Nuclear Programme, Its Sources and Motivations', *Modern Asian Studies*, Vol. 36, No. 4 (October 2002).
27. Chakma, Bhumitra, 'The NPT, CTBT and Pakistan: Explaining the Non-adherence Posture of a De Facto Nuclear State', *Asian Security*, 1/3 (2005).
28. Chakma, Bhumitra, 'The NPT, CTBT and Pakistan: Explaining the Non-adherence Posture of a De Facto Nuclear State ', *Asian Security*, Volume 1, Issue 3 (September 2005).

29. Chakravarthi, Rekha and D. Suba Chandran (eds.), 'Chronology of Events', *Institute of Peace and Conflict Studies Report*, Vol. 2. No. 6 (June 2009).
30. Chari, P. R., 'Nuclear Crisis, Escalation Control, and Deterrence in South Asia', Working Paper, Version 1.0, *The Henry L. Stimson Centre* (2003).
31. Checkel, Jeffrey T. , 'The Constructivist Turn in International Relations Theory,' *World Politics* (1998) .
32. Chou, David. S., 'US Policy Towards India and Pakistan in the Post Cold War Era', *Tamkang Journal of International Affairs* (Taipei: Sheng-Chih Book Co.Ltd., 2003).
33. Clad, James and Salaamat Ali, 'Will Words Lead to War?' *Far Eastern Review* (26 April 1990).
34. Clark, Mark T., 'How Nations Decide to go Nuclear', *Foreign Policy Research Institute*, Vol. 45, Issue 3 (Summer 2001).
35. Cohen, Avner and Thomas Graham Jr., 'An NPT for non-members', *Bulletin of the Atomic Scientists*, 60/3 (May/June 2004).
36. Copeland, Dale C., 'The Constructivist Challenge to Structural Realism', *International Security*, Vol. 25, No. 2 (Fall 2000)
37. Cordesman, Anthony, 'Weapons of Mass Destruction in Middle East', *Centre for Strategic and International Studies* (15 April 2003).
38. Deutsch, John M., 'The Nuclear Threat,' *Foreign Affairs*, Vol. 71, No. 41 (Fall 1992).
39. Dhanapala, Jayantha and Randy Rydell, 'Multilateral Diplomacy and the NPT', *UNIDIR* (2005).
40. Einhorn, Robert, 'President Bush's Non-proliferation Proposals and Implications for the United Nations', *UNA-USA Policy Brief*, No. 1 (15 March 2004).

41. Elbaradei, Mohamed, 'Nuclear Non-proliferation: Global Security in a Rapidly Changing World', *Carnegie International Non-proliferation* (21 June 2004).
42. Evera, Steven Van, 'Primed for Peace: Europe after the Cold War,' *International Security*, Vol. 15, No. 3 (Winter 1990/91).
43. Feaver, Peter D., et al. 'Proliferation Pessimism', *International Security*, Vol. 22, No. 2 (Fall 1997).
44. Feaver, Peter Douglas, 'Neoptimists and the Enduring Problem of Nuclear Proliferation,' *Security Studies*, Vol. 6, No. 4 (Summer 1997).
45. Feaver, Peter Douglas, 'The Politics of Inadvertence,' *Security Studies*, Vol. 3, No. 3 (Spring 1994).
46. Finnemore, Martha and Kathryn Sikkink, 'International Norms Dynamics and Political Change,' Vol. 52, Issue 4, *International Organisations* (Cambridge University Press, 1998).
47. Frey, Karsten J., 'Nuclear Weapons as Symbols: The Role of Norms in Nuclear Policy Making', *IBEI Working Paper* (October 2006).
48. Frey, Karsten, 'The Psychology of Nuclear Choice', *Journal of Genocide Research*, Volume 9, Issue 3 (September 2007).
49. Frost, Robin M, 'Nuclear Terrorism After 9/11', *IISS, Adelphi Paper*, 378 (2005).
50. Gaddis, John Lewis, 'The Long Peace,' *International Security*, Vol. 10, No. 4 (Spring 1986).
51. Goswami, Namrata, 'The Essence of the South Asian Nuclear Debate', *Institute of Defence Studies and Analysis, Strategic Analysis* (Jul-Sep 2006).
52. Gregory, Shaun, 'The Terrorist Threat to Pakistan's Nuclear Weapons', *Combating Terrorism Centre at West Point*. Vol. 2, Issue 7 (Jul 2009).

53. Grieco, J., 'Anarchy and the Limits of Cooperation: A Realist Critique of the Newest Liberal Institutionalism', *International Organization*, Vol. 42 (Summer 1988).
54. Haagard, Stephen and Beth Simmons, 'Theories of International regimes', *International Organisation*, Vol. 41 (1987).
55. Hagerty, Devin T., 'Nuclear Deterrence in South Asia: the 1990 Indo-Pakistani Crisis', *International Security*, Vol. 20, No. 3 (Winter, 1995-1996).
56. Haas, Ernst, 'Technological Self-Reliance for Latin America: The OAS Contribution,' *International Organization*, 4 (Autumn 1980).
57. Hasenclever, Andreas, et al., 'Interest, Power, Knowledge: The Study of International Regimes', *Mershon International Studies Review* (1996).
58. Jervis, Robert, 'Security regimes,' *International Organisation* (Spring 1982).
59. Joeck, Neil A. et al., 'The Indo-Pakistan Nuclear Confrontation: Lessons from the Past, Contingencies for the Future', *NPEC, working paper series* (2008)
60. Jones, Scott A., 'Current and Future Challenges for Asian Non-proliferation Export Controls: a Regional Perspective', *Strategic Studies Institute* (October 2004).
61. Karl, David J., 'Proliferation Pessimism and Emerging Nuclear Powers,' *International Security*, Vol. 21, No. 3 (Winter 1996-1997).
62. Kersbergen, Van and Verbeek, 'The Politics of international Norms: Subsidies and the Imperfect Competence Regime of the European Union,' *European Journal of International Relations*, Vol. 13(SAGE Publications and ECPR-European Consortium for Political Research, 2007)
63. Khan, Brigadier Feroz Hassan (retd.), 'Pakistan's Security Perspectives,' *Essay for Force Magazine*, New Delhi, India (07 April 2005).

64. Khan, Feroz Hassan, 'Nuclear Proliferation Motivations,' *The Nonproliferation Review*, Vol.13, No. 3 (November 2006).
65. Khan, Feroz Hassan, 'The Power Curves and Wars in South Asia,' *Strategic Studies*, Vol. 2 (Islamabad, Pakistan 1993).
66. Khan, Feroz Hassan, 'Trust and Confidence Building Measures in South Asia,' *Pakistan Defence Review*, Vol.12, No. 2 (Pakistan: Rawalpindi, 1998).
67. Khan, Feroz, 'Comparative Strategic Culture: The Case of Pakistan,' Centre for Contemporary Conflict, *Strategic Insights*, Vol. IV, Issue 10 (Oct 2005).
68. Khan, Feroz, 'Nuclear Proliferation Motivations,' *The Nonproliferation Review*, Vol. 13, No. 3 (1 November 2006).
69. Khan, Sahabzada Yaqoob, 'Nuclear Non-proliferation in South Asia', *Strategic Studies Islamabad*, Vol. 10, No. 4 (Summer and Autumn 1987).
70. Kittrie, Orde F., 'Averting Catastrophe: Why the Nuclear Non-proliferation Treaty is losing its Deterrence Capacity and How to Restore IT' *Michigan Journal of International Law*, Vol. 28 (Winter 2007).
71. Klotz, Audie, 'Norms Reconstituting Interests: Global Racial Equality and US Sanctions against South Korea', *International Organisation*, Vol. 49, No. 3 (1995).
72. Knopf, Jeffrey W., 'Recasting the Optimism/Pessimism Debate', *Security Studies*, Vol. 12, No. 1 (Autumn 2002).
73. Koch, Andrew & Jennifer Topping, 'Pakistan's Nuclear Weapons program: A Status Report', *The Non-Proliferation Review*, Monetary Institute of International Studies, Vol. 4, No. 3 (1997).
74. Koch, Andrew and Jeanette Wolf, Appendix: selected Iranian nuclear imports, *Center for Nonproliferation Studies* (1998).

75. Krepon, Michael, 'The Stability Instability Paradox, Misperception and Escalation Control in South Asia', *Stimson Centre* (May 2003).
76. Laffy, Mark and Jutta Weldes, 'Beyond Belief: Ides and Symbolic Technologies in the Study of International relations,' *European Journal of International Relations* (1997).
77. Lavoy, Peter and Feroz Hassan Khan, 'Rogue or Responsible Nuclear Power? Making Sense of Pakistan's Nuclear Practices', *Strategic Insights*, 3/2 (Feb. 2004).
78. Lavoy, Peter R., 'Enduring Effects of Atoms for Peace', *Arms Control Today* (December 2003).
79. Lavoy, Peter R., 'Pakistan's Strategic Culture', *Defence Threat Reduction Agency* (31 October 2006).
80. Lavoy, Peter R., 'The Strategic Consequences of Nuclear Proliferation,' *Security Studies*, Vol. 4, No.4 (Summer 1995).
81. Lee, Rense, 'Why Nuclear Smuggling Matters' (Elsevier Limited on behalf of *Foreign Policy Research Institute* (Summer 2008).
82. Lellouche, Pierre, 'Breaking the Rules Without Quite Stopping the Bomb: European Views', *International Organization*, 35/1 (1981).
83. Lilienthal, David E., et al., 'International Control of Atomic Energy' (Washington D.C: 16 March 1946).
84. Luongo, Kenneth N. and Naeem Salik, 'Building Confidence in Pakistan's Nuclear Security', *Arms Control Today* (Dec. 2007).
85. Martin, Lisa L., 'Institutions and Cooperation: Sanctions during the Falkland islands Conflict', *International Security*, Vol. 16, No. 4 (Spring, 1992).

86. Mazari, Shireen M, 'Pakistan, the NPT and the Non-Proliferation regime', *The Korean Journal of Defence Analysis*, Vol. XV, No. 2 (Fall 2003)
87. Mearsheimer, John J., 'A Realist Reply', *International Security*, Vol. 20, No. 1 (Summer, 1995).
88. Mearsheimer, John J., 'Back to the Future: Instability in Europe after the Cold War', *International Security*, Vol. 15, No. 1 (Summer 1990).
89. Mearsheimer, John J., 'The Case for a Ukrainian Nuclear Deterrent', *Foreign Affairs*, Vol. 72, No. 3 (Summer 1993).
90. Mearshimer, John J., 'The False Promise of International Institutions', *International Security*, Vol. 19 No. 3 (1994/95).
91. Mesquita, Bruce Bueno de and William. H. Riker, 'An Assessment of the Merits of Selective Nuclear Proliferation,' *Journal of Conflict Resolution*, Vol. 26, No. 2 (June 1982).
92. Miller, Steven E., 'The Case against a Ukrainian Nuclear Deterrent,' *Foreign Affairs*, Vol. 73, No. 3 (Summer 1993).
93. Mistry, Dinshaw, 'Tempering Optimism about Nuclear Deterrence in South Asia,' *Security Studies*, Vol. 18, No. 1 (January 2009).
94. Neill, Kate O', Jorg Balsiger and Stacy D. VanDeveer, 'Actors, Norms and Impact', *Annual Review of Political Science* (May 2004).
95. Nizamani, Haider K, 'South Asian Nuclear Weapons and Dilemma or International Non-Proliferation Regimes', *Journal of Contemporary Security Policy*, Centre for Non-proliferation Studies, Monterey Institute of International Studies (1 August 2001).

96. Nizamani, Haider K., 'South Asian Nuclear Weapons and Dilemmas of International Non-Proliferation Regime', *Contemporary Security Policy*, Vol. 22 No.2 (August 2001).
97. Noorani, A.G., 'An India-US Détente: Potentialities and Limits', *Global Affairs* (Fall 1993).
98. Paul, T. V., 'Strengthening the Non-Proliferation Regime: The Role of Coercive Sanctions', *International Journal* 51, No. 3 (Summer 1996).
99. Perkovich, George, 'A Nuclear Third Way in South Asia', *Foreign Policy*, No. 91 (Summer, 1993).
100. Perkovich, George, 'The End of the Non-proliferation regime?', *Current History* (November 2006).
101. Preble, Christopher, 'The Bush Doctrine and "Rogue" States', *Foreign Service Journal* (October 2005)
102. Rauf, Tariq and Rebecca Johnson, 'After the NPT's indefinite extension: The Future of the global Non-proliferation Regime', *The Nonproliferation Review*, Volume 3, Issue 1 (Autumn 1995).
103. Raymond, Gregory A., 'Neutrality Norms and the Balance of Power, Cooperation and Conflict,' Vol. 32, No. 2 (1997).
104. Reidel, Bruce, 'American Diplomacy and the 1999 Kargil Summit at Blair House,' *Centre for the Advance Study of India*, Policy Paper Series (2002).
105. Robock, Alan and Owen Brian Toon, 'Local Nuclear War' *Scientific American/Rutgers University* (January 2010).
106. Rogers, Professor Paul et al., 'Constructive Approaches to Limiting the Spread of Nuclear Weapons: Some Proposals for Government Action', *Oxford Research Group* (April 2004).

107. Ruggie, John Gerard, 'International responses to Technology: Concepts and Trends,' *International Organization*, Vol. 29, No. 3 (Summer, 1975).
108. Sagan, Scott D., 'Dissuasion and the NPT Regime: Complementary or Contradictory Strategies?', *Strategic Insight*, 3/10 (October 2004).
109. Sagan, Scott D., 'Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb', *International Security*, Vol. 21, No. 3 (Winter 1996/1997).
110. Savita, Pande, 'Pakistan's Nuclear Strategy', *Asian Strategic Review* (1993-94).
111. Schmidt, Fritz W., 'Nuclear Export Controls – Closing the Gaps', *IAEA Bulletin* 46/2 (March 2005).
112. Schmidt, Fritz, 'NPT Export Controls and the Zangger Committee', *Non-proliferation Review* (Fall-Winter 2000).
113. Schweers, Philip, 'India and Pakistan Trapped in a Security Paradox', *Duesseldorf Institute for Foreign and Security Policy*, No. 37 (December 2003).
114. Schweers, Philipp, 'India and Pakistan: Trapped in a Security Paradox?' *DIAS-Analysis*, No. 3 (Dec. 2008).
115. Sean, Lucas, 'The Bush Proposals: a global strategy for combating the spread of nuclear weapons technology or a sanctioned nuclear cartel?', *Centre for Non Proliferation Studies, Monterey Institute of International Studies* (Nov. 2004).
116. Seng, Jordan, 'Less is More: Command and Control Advantages of Minor Nuclear States,' *Security Studies*, Vol. 6, No. 4 (Summer 1997).
117. Sloss, Davis, 'Do International Norms Influence States' Behaviour?', *George Washington International Law Review*, (2006).
118. Smith, Roger K., 'Explaining the Non-Proliferation Regime: Anomalies for Contemporary International relations theory', *International Organization*, Vol. 41, No. 2 (Spring, 1987).

- 119.Snidal, Duncan, 'Relative Gains and the Pattern of International Cooperation,' *American political Science Review*", Vol. 85, No. 3 (September 1991).
- 120.Snyder, Jack, 'The Soviet Strategic Culture: Implications for Nuclear Options' *Report of the RAND Corporation*, (September 1977).
- 121.Snyder, Jack, 'The Soviet Strategic Culture: Implications for Nuclear Options' (*RAND Corporation* (Santa Monica: Calif.: September 1977)
- 122.Sorvillo, Edoardo, 'Obama's 2010 Nuclear Security Summit and the International Non-proliferation Regime', *Policy Brief*, Istituto Per Gli Studi Di Politica Internazionale (ISPI), No. 163 (Oct 2009)
- 123.Sultan, Maria, 'Iran, Proliferation Magnet', *SAIS Review*, Vol. XXV, No.1 (Winter- Spring 2009).
- 124.Thee, Marek, 'Arms Control: The Retreat from Disarmament and Record to Date and the Search for Alternatives,' *Journal for Peace Research*, Vol. 14, No. 2 (1977).
- 125.Thomson, Janice E., 'Norms in International relations: A Conceptual Analysis', *International Journal of Group Tensions*, Vol. 23 (1997).
- 126.Vertzberger, Yaacov, 'The Political Economy of Sino-Pakistani Relations: Trade and Aid 1963-82', Vol. 23, No. 5, *Asian Survey* (May, 1983).
- 127.Waltz, Kenneth N., 'Structural Realism after the Cold War,' *International Security*, Vol. 25, No.1 (Summer 2000).
- 128.Weiss, Leonard, 'Turning a blind eye again? The Khan Network's history and lessons for US policy', *Arms Control Today* (March 2005).
- 129.Yasmeen, Samina, 'Pakistan's Nuclear Tests: Domestic Debate and International Determinants,' *Australian Journal of International Affairs*, Vol. 53, No. 1 (1999).

Newspapers and Magazines

1. 'Dr Khan says he confessed to save Pakistan', *Dawn, Pakistan* (08 April 2008).
2. 'Father of Pakistan's Nuclear Bomb Punished Through National Humiliation: Rice', *Agence France Press* (3 Oct. 2004).
3. 'Libyan WMD: Tripoli's statement in full', BBC News (20 December 2003).
4. 'Nuclear Command Authority Ordinance Being Made Law', *The News* (11 November 2009).
5. 'Pakistan releases 'father' of nuclear bomb from house arrest', *The Guardian* (6 February 2009).
6. 'Pakistan, China Sign Cooperation Agreement,' *The Pakistan Times* (21 September 1986).
7. 'Strategic Assets are safe, Says FO', *Dawn* (13 November 2007).
8. Abbas, Maj. Gen. Athar, Military spokesperson, *Dawn* (12 Aug. 2009).
9. Abbasi, Rizwana, 'India in Outer Space', *The News* (13 February 2008).
10. Akhtar, Hasan, 'Islamabad Calls Big Five Stance Biased,' *Dawn* (7 June 1998).
11. Beg, General Aslam (retd.), 'Who Will Press the Button?', *News* (23 April 1994).
12. Beg, Mirza Aslam', *Press Trust of India* (11 Feb. 2004).
13. Bender, Bryan, 'Pakistan US in Talks on Nuclear Security', *Boston Globe* (5 May 2009).
14. Bokhari, Farhan and James Lamont, 'Obama Says Pakistan Nukes in Safe Hands', *Financial Times* (29 April 2009).
15. Bolton, John R., 'An All-Out War on Proliferation', *Financial Times* (7 Sept. 2004).

16. Broad, Willian J., David E. Sanger and Raymond Bonner, 'A Tale of Nuclear Proliferation', *New York Times* (12 February 2004).
17. Crail, Peter, 'Germany Convicts Khan associate', *Arms Control Today* (November 2008)
18. Doerner, William R., 'Knocking at the Nuclear Door,' *Time* (30 March 1987).
19. ElBaradei, Mohamed, 'Rethinking Nuclear Safeguards', *Washington Post* (14 June 2006).
20. Gannon, Kathy, 'Explosive Secrets from Pakistan', *Los Angeles Times* (16 May 2005).
21. Gannon, Kathy, 'Iran Sought Advice in Pakistan on Attack', *Associated press* (12 May 2006).
22. Gretz, Bill, 'Libyan Sincerity on arms in doubt', *Washington Post* (9 September 2004).
23. Henderson, Simon, 'Investigation: Nuclear scandal - Dr Abdul Qadeer Khan', *The Times* (20 September 2009).
24. Hersh, Seymour M., 'On the Nuclear Edge,' *New Yorker* (29 March, 1993).
25. Hibbs, Mark, 'German-US Nerves Frayed Over Nuclear ties to Iran', *Nuclear Fuel* (14, March 1994).
26. Hirsh, Michael and John Barry, 'Nuclear Jitters', *Newsweek* (8 June 1998).
27. Hussain, Zahid, 'There is a Conspiracy against me by the Jewish Lobby', *NEWSLINE*, (February 2004).
28. Indian Troops Reinforced New Kashmir Border with Pakistan", *Reuter Report* (12 April 1990).
29. Iqbal, Anwar, 'Obama deflects criticism of Pakistan', *Dawn* (13 May 2010)

30. Iqbal, Anwar, 'US not to mark out Pakistan, India for NPT', *Dawn* (22 April 2010).
31. Kapisthalam, Kaushik, 'Guarding Pakistan's Nuclear Estate', *Asia Times* (6 April 2005).
32. Kelley, Matt, 'Pakistan Threatened to Give Iran Nukes', Associated Press (27 Feb. 2004).
33. Khan, Munir Ahmed, 'Nuclear Issue in South Asia', *Dawn* (17 November 1991).
34. Lancaster, John and Kamran Khan, 'Senior Pakistani Army Officers Were Aware of Technology Transfer', *Washington Post* (3 February 2004).
35. 'Libya Power Plant', *The Washington Post* (4 October 1978).
36. Manthorpe' Jonathan, 'Amid uproar, India gets its nuclear deal back on track', *The Vancouver Sun* (23 July 2008).
37. Moore, Molly and Kamran Khan, 'Pakistan moves Nuclear Weapons – Pakistan Says Arsenals are Now Secure', *Washington Post* (11 November 2001).
38. Naqvi, Jawed, 'India, Pakistan nearly annihilated each other: Bill Clinton', *Dawn* (1 Oct. 2009).
39. Nayyar, 'Pakistan Has the Bomb', *Tribune* (1 March 1987).
40. 'Pakistan Gave Technology to North Korea', *New York Times* (18 October 2002).
41. 'Pakistan releases 'father' of nuclear bomb from house arrest', *The Guardian* (6 February 2009).
42. Pisik, Betsy, 'Can the US find a substitute for the UN?', *Washington Post* (15 Nov. 2005).
43. Rogers, Paul, 'Iran, America, Israel: the Nuclear gamble', *OpenDemocracy* (2 Oct 2009).

44. Rogers, Paul, 'The nuclear-weapons risk', *OpenDemocracy* (15 April 2010).
45. Rownsend, Mark, 'MI-6 Probes UK Link to Nuclear Trade with Iran', *The Observer* (10 June 2001).
46. Sanger, David E. and James Dao, 'A Nuclear North Korea: Intelligence; U.S. Says
47. Sanger, David E. and William J. Broad, 'US secretly aids Pakistan in guarding nuclear arms', *New York Times* (18 Nov. 2007).
48. Sanger, David E., 'Pakistani Leader Confirms Nuclear Exports', *New York Times* (13 September 2005).
49. Sanger, David, 'Pakistani Says He Saw North Korean nuclear Devices', *The New York Times* (13 April 2004).
50. Sanger, David, E., 'In North Korea and Pakistan, Deep Roots of Nuclear Barter', *The New York Times* (24 November 2002).
51. Tavernise, Sabrina and David E. Sanger, 'Pakistan's Leader Cedes Nuclear Office', *New York Times* (28 November 2009).
52. Walsh, Declan, 'US "Comfortable" with Pakistan's Nuclear Arsenal, says Robert Gates', *Guardian* (6 December 2009).
53. Wasim, Amir, 'Pakistan came out of N-crisis safely: No question of rollback', *Dawn* (17 March 2004).
54. Wonacott, Peter, 'Inside Pakistan's Drive to Guard Its A-Bombs', *Wall Street Journal* (29 November 2007).
55. 'Pakistan expresses Concerns,' *New York Times*, (19 May 1974)

Internet Sources

1. 'Bangladesh with love!!!',
http://www.youtube.com/watch?v=51I1WWXH0Gc&feature=player_embedded
2. 'Evolution of the Nuclear Non-Proliferation Regime 1945–1970', PPNN Briefing Book Volume I, URL: <http://www.ppnn.soton.ac.uk/bb1/Bb1Chap1.pdf> (last visited on 30 June 2010).
3. 'Nuclear Proliferation, embassy of India', available on http://www.indianembassy.org/policy/CTBT/embassy_non_proliferation.htm (last visited on 30 June 2010).
4. Abbasi, Rizwana, 'India In Outer Space - Emerging Concerns', 29 January 2008, <http://www.countercurrents.org/abbasi290108.htm>
5. Abbasi, Rizwana, 'Establishing The New Nuclear Taboo' 26 May, 2010, <http://www.countercurrents.org/abbasi260510.htm>
6. Bakhsh, Baloch Dr. Qadar, 'Pakistan's Nuclear Deterrence: Decade of Perception & Misperceptions', *Qurtuba University*, NWFP, Pakistan, http://www.qurtuba.edu.pk/thedialogue/The%20Dialogue/2_4/1_Qadar_Baloch.pdf
7. Barnaby, Dr. Frank, et al., 'Constructive Approaches to Limiting the Spread of Nuclear Weapons: Some Proposals for Government Action', *Oxford Research Group* (April 2004)
http://www.oxfordresearchgroup.org.uk/publications/books/constructive_approaches_limiting_spread_nuclear_weapons_proposals_government_acti (visited on 30 June 2010).
8. Beg, Gen. Mirza Aslam, 'Nuclear Proliferation – a Taxonomy,' A *FRIENDS* publication, see URL:

<http://www.friends.org.pk/Beg/Nuclear%20Proliferation.htm> (last visited on 30 June 2010).

9. Beg, General Mirza Aslam, 'The Demise of Nuclear non-proliferation,' A

FRIENDS publication,

<http://www.friends.org.pk/Beg/The%20Demise%20of%20Nuclear%20non-proliferation.htm> (last visited on 30 June 2010).

10. Bhutto, Benazir, The Rediff Interview,

<http://www.rediff.com/news/2004/mar/10inter.htm> (last visited on 30 June 2010).

11. Brahm, Eric, 'International Regimes', *University of Colorado*, (September 2005).

http://www.beyondintractability.org/essay/international_regimes/?nid=6584 (last visited on 30 June 2010).

12. Caroline, Baker, 'Explaining the fortunes of the nuclear non-proliferation regime

– A reconsideration of the Value of realism', *British International Studies*

Association, available on URL:

http://docs.google.com/viewer?a=v&q=cache:e_N27T5JJcsJ:www.bisa.ac.uk/index.php%3Foption%3Dcom_bisa%26task%3Ddownload_paper%26no_html%3D1%26passed_paper_id%3D12+1.+Baker+Caroline,+%E2%80%98Explaining+the+fortunes+of+the+nuclear+non-proliferation+regime&hl=en&gl=uk&pid=bl&srcid=ADGEESjguZzE14kRt9TBaf11LKK9TXobwCF1Ca8Z9AVX2zzg6-ZeuD5l0qf5ddvZdkxkf9g7EPW06bh8bVM2KLtBOnkLsnzXc_M0pLqjhqgwWvurLSlCvVLc9O4_6sNAbqMwvkF4Gqsw&sig=AHIEtbSMDZboQBMgdOzSfLx2R4LGs4ssIQ (website viewed on 30 June 2010).

13. Chari, P.R., 'Nuclear Restraint, Nuclear Risk Reduction, and the Security–
Insecurity Paradox in South Asia'
<http://www.stimson.org/southasia/pdf/NRRMChari.pdf>
14. Embassy of India, 'Nuclear Non-Proliferation',
http://www.indianembassy.org/policy/CTBT/embassy_non_proliferation.htm
15. Evolution of India's Nuclear Strategy, URL:-
<http://www.indianembassy.org/pic/nuclearpolicy.htm> (last visited on 30 June 2010).
16. Goldemberg, Jose, 'The Erosion of the NPT' see <http://www.npec-web.org/Essays/20070410-Goldbemberg-ErosionOfNPT.pdf> (last visited on 30 June 2010).
17. Kohlmeier, Gabrielle and Miles A. Pomper, 'Pakistan Advances Export Controls', *Arms Control Today*,
http://www.armscontrol.org/act/2004_10/Pak.asp (last visited on 30 June 2010).
18. Maxon, Philip, 'The US-India Agreement and its Impact on the [Non-proliferation] Regime', *BASIC Getting to Zero Papers*, Number 6, available at URL: <http://www.basicint.org/gtz/gtz06.pdf> (last visited on 30 June 2010).
19. Natefish, 'Constructivism Vs. Realism', (June 2008) published by Socyberty (a user powered website) available on URL: <http://www.socyberty.com/Social-Sciences/Constructivism-Vs-Realism.148223> (last viewed on 30 June 2010).
20. Nuclear Chronology of Pakistan, authoritative source on Pakistan security,
<http://www.defence.pk/forums/defence-industry-technology/13739-nuclear-chronology-pakistan.html> (last visited on 30 June 2010).
21. Nuruzzaman, Mohammed, 'Liberal Institutionalism and Cooperation in the Post 9/11 World', *Canadian Political Science Association (CPSA)* available on URL:

- <http://www.cpsa-acsp.ca/papers-2006/Nuruzzaman.pdf> (last visited on 30 June 2010).
22. Patrikarakos, David, 'Nuclear "haves" and "have-nots"', *ISN Security Watch* (10 May 2010): <http://www.isn.ethz.ch/isn/Current-Affairs/Security-Watch/Detail/?lng=en&id=116004> (last visited on 30 June 2010).
23. Quraishi, Ahmed, 'Interview: Air Commodore Khalid Banuri, - "Don't Mess With Pakistan"' (17 January 2008) <http://www.globalpolitician.com/24013-pakistan> (last visited on 30 June 2010).
24. Chari, P. R., 'Nuclear Restraint, Nuclear Risk Reduction, and the Security–Insecurity Paradox in South Asia', *The Henry L. Stimson Centre*, <http://www.stimson.org/southasia/pdf/NRRMChari.pdf> (last visited on 30 June 2010).
25. Shotwell, Charles B., 'Export Controls: A Clash of Imperatives', available at URL: http://www.ndu.edu/inss/books/Books_2001/Global%20Century%20-%20June%202001/C16Shotw.pdf (last visited on 30 June 2010).
26. Soete, Francois de, 'The Nuclear Non-Proliferation Regime: Trying to Maintain the Status Quo', available at <http://www.cda-cdai.ca/symposia/2003/soete.htm> (last visited on 30 June 2010).
27. Sreenivasan, T P, 'IAEA and NSG will be no Cakewalk' (24 August 2007), <http://www.rediff.com/news/2007/aug/24tps.htm> (visited on 30 June 2010).
28. Statement by Ambassador Savitri Kunadi, Permanent Representative of India in the Plenary meeting of the Conference on Disarmament (2 June 1998). http://www.indianembassy.org/policy/CTBT/cd_june_02_98.htm (last visited on 30 June 2010).

29. Stephen, Kaufman, 'With New START, U.S., Russia Commit to Disarmament' (08 April 2010). <http://www.america.gov/st/nonprolif-english/2010/April/20100408130409esnamfuak0.8880274.html> (last visited on 30 June 2010).